NUCLEAR NONPROLIFERATION POLICY AND THE IMPLICATIONS OF NEW TECHNOLOGY

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BEFORE THE

SUBCOMMITTEE ON
ENERGY, NUCLEAR PROLIFERATION, AND
GOVERNMENT PROCESSES

OF THE

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GOVERNMENTAL AFFAIRS
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THURSDAY, NOVEMBER 19, 1981

U.S. SENATE,
SUBCOMMITTEE ON ENERGY, NUCLEAR
PROLIFERATION, AND GOVERNMENT PROCESSES,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, D.C.

The subcommittee met, at 10:05 a.m., in room 6226, Dirksen Senate Office Building, Hon. Charles H. Percy (chairman of the subcommittee) presiding.

Present: Senators Percy, Cohen, and Glenn.

OPENING STATEMENT OF SENATOR PERCY

Senator PERCY. I would like to welcome everyone to this hearing of the Subcommittee on Energy, Nuclear Proliferation, and Government Processes. Today we have another in a series of hearings this subcommittee is holding on proliferation. I will continue to call for hearings on this topic until the subcommittee perceives that our Nation has awakened to the seriousness of this problem.

President Reagan yesterday, in his first major foreign policy speech, made a strong commitment to get on with arms control between the superpowers. His bold and far-reaching proposal could get us back on the road to reducing the nuclear weapons within the arsenals of the superpowers. I don't think it is any secret I have long felt very strongly that the world is too dangerous not to have the two superpowers meet sometime in 1982 face-to-face. If we meet with our allies and the developing world, we had better meet with our adversaries. It is unbecoming for this President, the first or second most powerful man in the world, to not meet face-to-face with the second most powerful man in the world. Second most powerful in military power, not economic power.

This will come about, I feel quite confident, from the work that I began in November, just a year ago, in the Kremlin, and the long talks we had during the course of the campaign, both Howard Baker and I, with then Governor Reagan about the necessity of moving ahead in this field. No one could have asked for more than was given yesterday in a powerful, creative statement.

So, today, it is a good thing we are starting this morning on what I consider to be an equal problem in scope and magnitude. In fact, I am more worried about, in our lifetime, having nuclear missiles released by powers other than the United States and the Soviet Union. Between the two of us, I think we have considerable respect for the power of those weapons. The SALT talks will get us thinking about this again at an advanced level. I have less concern about there being a nuclear confrontation between the two superpowers than one starting someplace in the Near East, the Mideast, or someplace else. Nuclear weapons could also actually be used by a terrorist somewhere in the world beyond any government's control.

As things stand now, I am concerned that our nonproliferation efforts are in trouble. Every day the world seems to grow closer to the time when nuclear weapons are used again by nations at war. When people speak of nuclear terror, they usually talk about superpower confrontation, but, in my view, the greater danger is the risk that other nations in unstable parts of the world may someday use these weapons. As the Israeli raid on Iraq showed, the development of nuclear weapons—or even just the impression that they may be under development—can destabilize a region by serving as a magnet for a preemptive attack.

Increasing evidence indicates that international safeguards are not nearly as effective as they could be. While we must redouble our efforts to strengthen the International Atomic Energy Agency, we must also watch what we and our allies sell to other nations. Placing a facility "under safeguards" just isn't good enough anymore. There remain a number of nations that are apparently either developing nuclear weapons or maintianing the option for the future.

We must continue to assert nonproliferation as a fundamental goal of an American foreign policy that seeks to maintain peace and stability throughout the world. I am worried that we are not taking nonproliferation policy as seriously as we should. We have taken several actions in the last few months that, when taken together, do not add up to a strong nonproliferation policy. Let me give just a few examples.

Here in the Senate, at the administration's request, we voted to continue construction of the Clinch River Breeder Reactor, and the administration lifted the ban on reprocessing in the United States. In addition, we are no longer discouraging our friends from reprocessing their nuclear fuels. Reprocessing may seem to provide a fast answer to the buildup of spent fuel at our nuclear reactors. But, combined with the breeder, it clearly brings closer the day of the "plutonium economy"—the general circulation and use of plutonium fuels with its attendant risks of fuel diversion for weapons development—and, of course, the possibility of terrorism.

Second, we recently waived a provision of our uranium enrichment contract with Brazil, even though Brazil still has unsafeguarded nuclear facilities. While this will make it easier for Brazil to find another supplier with less stringent standards and will improve our bilateral relations, it seems to undercut our leverage over Brazil to accept full scope international safeguards.

Third, we are apparently considering the use of commercial nuclear fuel in nuclear weapons. While this may seem at first glance to be a reasonable answer to our commercial spent fuel problem, it is a perfect example of how nonproliferation objectives are becoming secondary to other concerns.

I just keep wondering how we rationalize this to a lot of countries we have been trying to persuade not to go into reprocessing.

Our efforts to control the spread of nuclear weapons are based on a division between the military and civilian applications of nuclear technology. This division is now jeopardized by a laser process being developed by the Department of Energy that will allow plutonium produced in nuclear power reactors to be refined to the high purity necessary for nuclear weapons. In addition, several officials of the Department of Energy, including the Secretary, have made statements indicating that the Department of Energy is considering eventually using plutonium contained in commercial spent fuel in the weapons program.

Diversion of plutonium from commercial nuclear powerplants could have a disastrous effect on our nonproliferation policy. It would blur the division between the peaceful and military uses of nuclear technology and threaten the basis of the international nuclear regime rooted in the Treaty on the Nonproliferation of Nuclear Weapons. The concept of "atoms for peace" could be destroyed, hopelessly confused with "atoms for war." If we proceed to expand our nuclear arsenal through production of weapons material from civilian fuel, our nonproliferation policy could lose the credibility necessary to tell other nations not to use their peaceful reactors to make nuclear weapons.

An additional concern raised by the development of plutonium laser isotope separation technology is the effect that use of commercial nuclear fuel in the weapons program could have on nuclear power in this country. Nuclear power must stand or fall on the basis in this country. Nuclear power must stand or fall on the basis of economics and safety. If we decide on a course of action which could turn our power reactors into potential bomb factories, we will have saddled this industry with a political problem it just does not need.

I have introduced S. 1812 to require congressional approval of the use of commercial spent fuel for nuclear weapons.[1] Before the United States takes the step of becoming the first signatory of the NPT in the free world to use its commercial nuclear program to make atomic bombs, we should carefully weigh the consequences for our nonproliferation policy. I think it is only wise for the Congress to make that fateful decision—which I, personally, expect it never would.

After I made this proposal, others in the House and Senate suggested that we go even further and absolutely ban the use of commercial fuel in weapons, without any possibility of waiver by either the President or the Congress. And in the appropriate place in the record, I would like to insert a letter I received dated November 19 from representatives of 11 different organizations evidencing their deep concern about this problem. They side strongly with those Members of the Senate and the House that have indicated there should be no waiver of any kind. Paul Leventhal, formerly of this committee, signs the letter on behalf of Nuclear Club, and Chris Palmer, a former staff member of this committee, has also signed it on behalf of the National Audubon Society.[2]

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[1] See p. 45 for the text of S. 1812.

[2] See p. 48.

I do have an open mind as to whether we should or should not allow such a waiver, and I would very much like the administration's comments on this. But one way or another, we simply must send a strong signal throughout the world that here in the United States we shall preserve the distinction between "atoms for peace" and "atoms for war."

Senator Glenn, we are delighted to have you here. You coauthored with me the Nuclear Nonproliferation Act. At the time we did it, we said we did the best we could at that time, and we wanted to keep our minds open for improvement and strengthening as the process went along. I will be delighted to have you make any opening statement you wish.

OPENING STATEMENT OF SENATOR GLENN

Senator GLENN. Thank you very much, Mr. Chairman.

I think using spent fuel as a source of plutonium is largely a PR matter, a question of perceptions. It is mixig two different sides of the nuclear field that many people, including IAEA, believe we shouldn't be doing. It sent some of the wrong signals.

But I am concerned, too, about this unmistakable pattern that seems to be emerging with the new administration regarding the whole field of nuclear nonproliferation. I have has an increased feeling that we are not leading the efforts for nonproliferation around the world. We are throwing in the towel, and I don't like to see that. If that really is all we can do, OK; but I am not convinced that is the case. Basically, we have undermined the restraint we have built up over the last 5 or 6 years, and even at this early stage of the new administration, the negative effects of our weakened interest in nonproliferation are begining to manifest themselves around the world.

Just a few of the highlights. On the question of arms transfers to Pakistan, for instance, that we have been considering here recently, the original position of the administration was to try not just to set aside the Symington amendment in this particular case, but to do away with it completely. This is one of our earliest nonproliferation laws contained in the Arms Export Control Act, whose purpose was to restrict the spread of sensitive nuclear enrichment technology. An amendment of my own was also added to that same Export Control Act to cover transfers of reprocessing technology. These are the two methods by which bomb making capabilities spread around the world. The administration consistently—and it wasn't passive opposition—very vigorously opposed all my efforts to temper their original approach to eliminate the Symington amendment, and it is only by strong congressional opposition that we have been able to salvage this vital provision of the law with the Senate passing 51 to 45 an amendment to this year's foreign assistance bill to cut off further help to India or Pakistan if they go ahead and detonate a nuclear explosion or nuclear weapon—both being one and the same thing. And we still don't have any firm commitment of the administration that they will terminate assistance if these countries set off nuclear devices.

Maybe it is unfair of us to ask the smaller nations to say they will not go ahead and go the nuclear weapons route. We are still trying to deal with strategic weapons; we hope to get SALT and to get the weapons stockpiles under control by some means. At the same time we are asking the smaller nations not to go the weapons route while we, the weapons countries, try to get control of the big problem. We have some 112 nonweapons nations under NPT under full IAEA. It seems to me when we start going the other direction of easing our pressures against proliferation we break faith with them.

The State Department memo of October 2, 1981, which went out over Mr. Malone's signature to the interagency group reviewing changes in the nuclear nonproliferation law, went into several areas where it suggested modifications of the Nuclear Nonproliferation Act [NNPA] ought to be considered. I don't disagree with considering changes. But basically the changes would include substantial undercutting of the full-scope safeguards criterion. It would include elimination of sanction provisions for nuclear violators, which in the NNPA was the first time we put any sanctions or teeth in the nuclear law. It would eliminate the truly independent review of executive branch judgments of export decisions, changing the relationship of the Nuclear Regulatory Commission. I don't see under these circumstances, with that being proposed, how other nations can really take seriously our efforts to try to get acceptance of full-scope safeguards. So I think the word is out to go ahead and renew trade and we don't object in any way. This is what we seem to be saying instead of taking a leadership position in this matter, as we in Congress had hoped we would do.

We passed 88 to 0 a resolution asking the President at Ottawa to take up these nonproliferation questions with the nuclear suppliers at Ottawa. I asked for an appointment with the President to discuss this prior to his going to Ottawa and was refused. He wouldn't talk to me about it before he left. Nothing was done at Ottawa after an 88 to 0 vote in the Senate asking him to make this an item of discussion at Ottawa. It came out as item 37 in the Ottawa communique in a paragraph that stated only that the suppliers should consider nonproliferation matters. That seems to be the level of attention we are getting, or not getting, out of the administration with regard to this matter, a matter that we have really worked on through the years in the hopes that we could provide leadership for other nations around the world.

Among other developments, we are seeing many more transfers of spent fuel now. This brings me to the question of the Tokai-Mura plant, and U.S. policy on reprocessing, in general. We are now approving transfers of spent fuel from Japan, Sweden, Spain, and Switzerland for reprocessing in Great Britain and France; and, as far as the Japanese Tokai-Mura plant is concerned, basically, we have given them carte blanche. I don't see how we can discourage the export of this technology to sensitive regions, or persuade countries like India to forgo reprocessing when, with every ounce of strength, it seems, we are telling everyone else that reprocessing makes sense and is a legitimate part of civilian nuclear programs, so go right ahead. At the same time, IAEA has had a lot of problems; even they can't safeguard the facilities we have now. Indeed, I don't think the IAEA's own safeguards objectives are going to be properly carried out.

In the case of Brazil, I won't go into the details on that, we tried to gain their acceptance of the terms of the NNPA, tried to get them to accept nuclear safeguards as the condition for getting fuel from us. Now we have made it easier for Brazil to obtain that fuel elsewhere by telling them we will not enforce the penalty clause in the United States-Brazil nuclear fuel contact, so they are free to go elsewhere. The effect is to encourage them to seek fuel from other suppliers whose export controls are less stringent than ours. And, moreover, it even gives a signal to those other suppliers, the British-Dutch-West German consortium, Eurenco, and the French-led consortium, Eurodif, that it is OK with us if they export to Brazil even though that country has not accepted full-scope safeguards. Our requirements for Brazil call for full-scope safeguards, but we are willing to let them out from under these. It seems to be contrary to the efforts we have been making over the past several years to get the other suppliers to adopt some of these strict export controls. We are bypassing what I see as the one control point we have over nuclear weapons spread, and that is the nuclear supplier nations that make the enriching equipment, and the reprocessing equipment. Fortunately, we are still a fairly small club in that nuclear supplier group, a club that could, with our leadership, I think perhaps buy us a little time to prevent some of this weapons potential from going around the world to smaller and smaller countries, as we are seeing every day, while we try to get the control from SALT.

Time is running out. What we have tried to do with NNPA is buy a little time while we try to get countries to cooperate with us. Instead of that, it appears we are laying that down and saying, go right ahead and buy reprocessing and enriching equipment that carries along with it bomb-making potential. We are not objecting to this or putting forth any real effort to take a leadership position in this.

So it just seems to me when we add up this record—our insensitivity to nonproliferation aspects, favorable statements on domestic and foreign reprocessing, statements on civilian reactor spent fuel for weapons, the obsession with the reliable supplier argument—we will wind up being reliable suppliers of nuclear weapons, in effect; this is the way it appears. So I just hope that we get back one of these days in the administration to feeling that nonproliferation is some of our business, and we are trying to take a leadership role in it, which I don't think we are taking now.

Thank you.

Senator PERCY. Thank you, Senator Glenn, very much indeed.

We have taken a long time for opening statements, but in the advise and consent sometimes we do like to advise. I think it is important for the administration to know how we feel, and how strongly we feel about it. As I said in my opening comments, for 1 year I have not felt a high enough priority has been given to arms reduction. That is now totally obsolete as of yesterday. The President has said this will be the highest priority of the United States of America. That is a pretty bracing statement. Senator Glenn and I have placed it very high on our agenda for 5 years. We have now the policymaking officials from the Department of Energy and

State Department who can state how high a priority this will be today in the administration. We welcome you.

We are very pleased to have Senator Cohen join us.

Secretary Malone, we are pleased to have you particularly from the State Department, as Assistant Secretary, Bureau of Oceans and International Environmental and Scientific Affairs. You do have day-by-day responsibility for conducting the State Department's nonproliferation policy. You have a fine background before that as general counsel in the Office of the Arms Control and Disarmament Agency. You have had a longstanding commitment to this issue, and we would like to have that commitment reinforced today in your statement. We would be pleased to hear any statement you have at this time. You might also introduce your colleagues, Mr. Salmon and Mr. Bettauer.

TESTIMONY OF JAMES L. MALONE, ASSISTANT SECRETARY, BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENT AND SCIENTIFIC AFFAIRS, DEPARTMENT OF STATE, ACCOMPANIED BY JOHN W. SALMON, JR., OFFICE OF NONPROLIFERATION AND EXPORT POLICY AND RONALD J. BETTAUER, ASSISTANT LEGAL ADVISER FOR NUCLEAR AFFAIRS

Mr. **Malone**. Yes, if I may introduce my colleagues to my right. To my immediate right is Ronald Bettauer, Assistant Legal Adviser, Department of State, and Jay Salmon, who is from our Bureau, accompanying me this morning.

Mr. Chairman, members of the committee, it is a pleasure for me to appear before you today to address a matter of great concern to us all—I think you have made that abundantly clear, particularly you, Senator Glenn, in your opening statements—and that is our efforts to prevent the spread of nuclear weapons. Before going further, let me express my appreciation to this committee, and especially to you, Mr. Chairman, for your efforts which culminated in last Friday's unanimous vote to give its advice and consent to U.S. ratification of Protocol I to the Treaty of Tlatelolco. This action represents a major step toward universal adherence to that treaty in Latin America. I hope that the necessary arrangements can be made in time for Secretary Haig to deposit the U.S. instrument of ratification during his upcoming visit to Mexico City. And I believe that that will be the case.

In trying to anticipate the committee's questions and concerns, it occurs to me that there may be value in reviewing some of the elements of President Reagan's statement of last July—a statement which reflects this administration's appreciation of the fundamental importance of a strong nonproliferation policy to the United States and world security. We all share this appreciation, as have previous administrations and former Congresses. The challenge now is to implent an effective policy at a time when basic technology of nuclear explosives is available to many nations. The need for nuclear suppliers to exercise restraint in the transfer of sensitive technologies and facilities is as valid as it ever was, but it is essential to recognize that proliferation is to an even greater degree an international political and security problem; the answer does not lie in simply imposing controls on the civil nuclear fuel cycle.

If the United States is to speak with a credible voice about nonproliferation, we must be able to demonstrate that we understand the legitimate security concerns, including the vital energy security concerns, of other nations. For this reason, it is our objective to be seen as a predictable and reliable partner for peaceful nuclear cooperation under appropriate and effective safeguards. And I stress under appropriate safeguards. What this means, plainly and simply, is that the United States will honor its international commitments and will act expeditiously in approving requests under agreements for cooperation where statutory requirements are met, and will not attempt to thwart the advanced nuclear power programs of those nations which do not constitute proliferation risks.

At the same time, these countries, by and large, are the same countries with which we must deal on issues of nuclear export controls. To be effective, the principle of restraint in the transfer of sensitive nuclear material, equipment, and technology, particularly to countries and regions of tension, or where such transfers present proliferation risks, must be commonly accepted. Otherwise, nonproliferation measures will become hostage to international commercial competition in the fierce bidding which accompanies the major nuclear transactions which can involve billions of dollars. It is a principal objective of this administration to work more effectively with other countries to forge agreement on measures for combating the risks of proliferation. Among these measures would be agreement on full-scope safeguards—that is, on requiring IAEA safeguards on all nuclear activities in a nonnuclear weapons state as a condition for significant new supply.

This leads me to the International Atomic Energy Agency—an international organization which will require the strong support of all nations concerned with international nuclear cooperation if the international regime which makes such cooperation possible is to continue. The United States will strongly support and continue to work with other nations to strengthen the IAEA and to provide for an improved international safeguards regime.

Another aspect of the President's policy statement concerned a review of applicable laws, regulations and procedures to determine whether any changes should be sought. I would like to inform the committee that this review is far from the stage where the administration could say whether any such changes may be desirable. We do not anticipate submitting any proposals in the near term, and we would consult with the Congress before going forward with such proposals.

Senator **Percy**. That assurance is very much appreciated.

Mr. **Malone**. Mr. Chairman, this is the policy framework in which I will address the more specific questions you put to me in your letter of November 16.

During his recent visit to Brazil, Vice President Bush announced the Department of Energy decision to allow Brazil to obtain the first reload for its Angra I reactor from a non-U.S. source without incurring financial penalties which the United States could have invoked under its enrichment contract. This decision was supported by the Department of State. As you know, Brazil does not object to safeguards on imported nuclear facilities or material; however, Brazil does object as a matter of principle to providing assurances to the United States, as a condition of supply, which are in addition to those required in our existing agreement for cooperation and enrichment contract. The U.S. statutory requirements regarding full-scope safeguards for U.S. nuclear exports was applied retroactively to an existing supply relationship between the United States and Brazil. Our judgment is that application of the contract penalty in this case would have served no useful purpose. It would not have forced Brazil to accept full-scope safeguards. Instead, it would have imposed strains on United States-Brazilian relations and probably ended the nuclear aspect of that relationship. It certainly would not have established the basis for a continuing dialog on the direction of the Brazilian nuclear program—a dialog which affords some hope of ultimately securing Brazilian agreement to full-scope safeguards.

I would say, Mr. Chairman, that this was a clear case in which, to take an extreme position, would not have been the way to move. Indeed, the not-quite-perfect or the perfect solution may have been the enemy of any solution at all.

You also asked in your letter about South Africa's purchase of enriched uranium fuel. We have made United States policy regarding fuel supply to South Africa well known to both the French and to South Africa: we would be willing to supply if South Africa adheres to the Nonproliferation Treaty, and accepts safeguards on all its nuclear facilities. Although South Africa contemplated obtaining the enriched uranium from the United States, we now understand that the South African utility has instead supplied enriched uranium from another source to the French firm for fabrication. The fabrication contract does not represent a new French obligation. The French informed the United States more than a year ago that they would honor this earlier fabrication contract if South Africa were to deliver the fuel. No U.S. Government approval is required for French fulfillment of the fuel fabrication contract. The fuel elements, which are to be used in safeguarded reactors, will be under safeguards. We also understand that the French reserve the right to take back the spent fuel when it is removed from the reactors.

You have also asked about our recently negotiated extension of the arrangement under which Japan reprocesses United States-origin fuel at their Tokai-Mura facility. While I was not involved in these negotiations, I can confirm that they were carried out in accordance with the views and advice of an interagency group, and were entirely consistent with the President's policy statement of July 16. Japan is an excellent example of a country with an advanced civil nuclear power program and impeccable nonproliferation credentials—it is our policy not to attempt to inhibit civil reprocessing abroad by countries which such advanced programs and where there is no related proliferation risk. As the committee is no doubt aware, Japan strongly supports our nonproliferation goals, and has been instrumental in the development of safeguards techniques for application to reprocessing facilities. In fact, it has operated the Tokai-Mura facility as a test bed for the development of safeguards techniques at such facilities. We are fortunate to have the opportunity to develop such techniques in a country which is sincerely desirous of strengthening the effectiveness of safeguards.

Finally, Mr. Chairman, you solicit the administration's views on the legislation you recently introduced which addresses the potential use of commercial spent power reactor fuel in nuclear weapons, and to which you referred in your opening remarks this morning. I must point out that the administration has made no decision on the feasibility or desirability of using plutonium from such fuel for military purposes; nor are any recommendations for decision pending before us. We also recognize that in considering the option of using plutonium produced in the civilian fuel cycle for U.S. weapons programs, we would need to take full account of possible impacts on our nonproliferation and foreign policy objectives. However, U.S. requirements for special nuclear material are being examined extensively by the executive branch along with alternative sources of supply. In light of the need to weigh the foregoing factors, I believe that it would be inadvisable for the Congress to take action at this time on legislation such as contained in S. 1812.

Mr. Chairman, members of the committee, this completes my formal remarks. I would be pleased to answer your questions. However, it is my understanding that you may wish to have my colleagues from DOE make some preliminary remarks before we turn to that.

Thank you very much.

Senator PERCY. Thank you very much indeed. We appreciate you and your colleagues being here.

To give us a balanced picture of the administration's point of view, then, we are very pleased to have Assistant Secretary Henry Thomas here, and I will ask him to introduce Harold Bengelsdorf and Dr. Charles Gilbert. We want to welcome you very much. We have enjoyed working with the Secretary of Energy on many issues. This Department was created in this committee. I am not sure we will enjoy working through the reorganization, or whatever comes of that.

Senator GLENN. Or retention.

Senator PERCY. Or retention, that is right.

But Secretary Henry Thomas, as Assistant Secretary for International Affairs, does have overall responsibility for the Department's international energy program. From our comments, I think you can tell you have one of the most important jobs in the Department. As chairman of the Foreign Relations Committee, which Senator Glenn serves on as well as this committee, where we both serve, we have a very special interest in your work indeed.

We are pleased to have Harold Bengelsdorf here. He is the Director of the Office of Nuclear Affairs, and he does bring with him a wealth of experience and expertise on nonproliferation from his experiences in DOE, its predecessors, and the Department of State.

We are delighted also to have Dr. Charles Gilbert, Acting Deputy Assistant Secretary for Nuclear Materials, here today. The subcommittee will profit from your great knowledge in the area of nuclear defense programs and nuclear production.

We are pleased to have your testimony at this time.

TESTIMONY OF HENRY E. THOMAS IV, ASSISTANT SECRETARY FOR INTERNATIONAL AFFAIRS, DEPARTMENT OF ENERGY, ACCOMPANIED BY HAROLD D. BENGELSDORF, DIRECTOR, OFFICE OF NUCLEAR AFFAIRS AND F. CHARLES GILBERT, ACTING DEPUTY ASSISTANT SECRETARY FOR NUCLEAR MATERIALS

Mr. THOMAS. Mr. Chairman, thank you, members of the committee. I am pleased to be here today, Mr. Chairman. I had not anticipated being here myself, but in response to your personal communication I am indeed pleased we were able to get together today.

Senator PERCY. I talked to you at 11 o'clock last night. In 15 years, it is the first time I ever called a witness who I learned last night was not coming. I very much appreciate your rearranging your schedule this morning so you can be here. I will be happy to write letters of explanation to people you were supposed to meet with today and express our appreciation for their courtesy.

Mr. THOMAS. Mr. Chairman, I am not sure that may not be necessary, but I guess that will depend on my response to your questions.

I have no prepared formal testimony for this meeting today. However, I am pleased to be here and answer questions you and the members of the committee have.

I am accompanied by Dr. Gilbert, whom you have identified, who is a principal to our Assistant Secretary of Energy for Defense Programs, who will serve as the principal Department of Energy witness here. And I will be assisted by Mr. Harold Bengelsdorf, on my staff, whom I think you have most graciously introduced as to his credentials.

Before asking Dr. Gilbert to present his formal statement to the committee, I would, with your permission, care to make a few general comments first.

I have had the opportunity to talk with Assistant Secretary Malone and reviewed the testimony which you have just heard. Of course, that is absolutely endorsed by not only myself but certainly by Secretary Edwards insofar as all the considerations on our concern about nonproliferation.

We are keenly interested in assuring that the U.S. nuclear program is managed in a way that is compatible throughout with our nonproliferation objectives as well as our defense needs, which do reside to a substantial degree in our area of the Department of Energy, and peaceful nuclear energy requirements that we have.

Mr. Chairman, there simply should be no doubt that we seek to carefully weigh the long-term international implications of the actions we are taking on our domestic nuclear side. We seek to integrate domestic nuclear policies as well as international nuclear policies, and one of the responsibilities of my office is to promote effective linkage between the Departments of Energy, State, ACDA, and the National Security Council in this regard.

Second, we certainly share your concern that in carrying out its dometic nuclear program, the United States must be sensitive to foreign implications. And we recognize the U.S. voluntary safeguards agreement with the International Atomic Energy Agency was of significant value in demonstrating to nonnuclear weapons nations in NNP we, as a nation, are prepared to accept safeguards analogous to those they accept in the NNPT.

Having said that, I would like to turn to Dr. Gilbert for his prepared statement and then come back with a few additional comments.

Senator PERCY. Thank you.

Mr. GILBERT. Thank you.

Mr. Chairman, members of the committee, I am pleased to appear before your committee today to discuss with you specifically S. 1812, a bill intended to prevent the transfer of irradiated fuel and special nuclear material from any Nuclear Regulatory Commission-licensed reactor for use in a nuclear explosive device unless the President makes certain determinations and the Congress acts favorably to approve such action. We believe this bill would, in effect, unilaterally constrain future U.S. defense options. For this and other reasons which I will explain later, we consider its enactment inadvisable.

As a matter of background, the major nuclear materials production capabilities in the Department of Energy are a responsibility of the Assistant Secretary for Defense Programs. One of my duties as Deputy Assistant Secretary for Defense Programs is to provide the long-range planning for, and the production of, nuclear materials—except uranium—for Department of Energy programs. Therefore, my planning takes into accont the requirement for both defense and peaceful uses of nuclear materials even though my office is located within the Defense Programs Office.

Eash year, the Department updates several nuclear materials production plans which reevaluate—on the basis of cost effectiveness, requirements, and timeliness—ongoing operations and various other production alternatives being considered, newly implemented, deferred, or even canceled. These plans range from an annual program implementation plan for a given budget to 5-, 8-, 12-, and 20-year plans. These latter plans are necessary because some new production options can take from 10 to 15 years from conception of the idea to implementation of the production process. Facility construction alone can take several years. Needless to say, the more distant the time frame being considered, the wider the range of production alternatives which must be evaluated.

Long-range contingency planning depends on our best projection of future material requirements which may be met by several possible production options. As you are aware, the Reagan administration supports the development of the breeder reactor. The administration also supports a strong national defense and security posture. Although priority is given to weapons requirements, both of these activities compete for the supply of special nuclear materials available in the Department and both activities show material requirements projected into the nineties. If materials shortfalls develop in the near term, or in the long term, we evaluate potential production options to reconcile those shortfalls and to minimize any impacts to government programs. The Department is constantly involved in long-range contingency planning. Such contingency planning includes, but is not limited to, options for development of isotope separation technology, construction of new ractors to assure a continuous supply of nuclear materials and converting existing reactors to higher productivity modes of operation. Any significant changes to our current operations or already approved plans must be approved by the administration and subsequently by Congress.

Mr. Chairman, you mentioned isotope separation in your opening remarks, as did Senator Glenn. I would like to make some brief comments on plutonium isotope separation technology. The Department of Energy does have a classified research and development program underway to develop this technology. Isotope separation could separate less fissile isotopes of plutonium; for example, plutonium-240 and plutonium-242, from fuel-grade or reactor-grade plutonium feed. These isotopes can be used for nuclear research and development.

A second use of isotope separation would be to remove the undesirable isotopes, plutonium-240 and plutonium-241, from existing weapon-grade plutonium to reduce the sources of neutron and gamma radiation in nuclear weapons. This would reduce the radiation exposure to Department of Energy personnel during weapons disassembly, subsequent plutonium recovery, and weapon fabrication operations and also would reduce the radiation exposure to Department of Defense personnel during weapon deployment.

A principal application of isotope separation would be to purify existing stocks of fuel-grade plutonium from the Department of Energy's Hanford N reactor, which is a dual-purpose, graphite moderated, water-cooled reactor, to a quality more suitable for weapons production. Plutonium isotope separation could also be used to purify plutonium obtained from commercial reactor fuel to weapon specifications or to separate from such fuel other isotopes for nuclear research and development. Such a step would not be taken lightly, but would include a policy determination at the highest levels of government, and only after review of all pertinent considerations, including U.S. nonproliferation objectives and other goals. No such decision has been proposed, much less made.

I wish to emphasize that an isotope separation capability would be very useful to the U.S. weapons program for its advantages of flexibility and economics whether or not it is applied to commercially produced plutonium.

Now I would like to discuss briefly the supply/demand situation for the nuclear materials, plutonium in particular.

If S. 1812 were to be enacted, we believe it would have the effect of inhibiting the use of plutonium derived from U.S.-licensed civilian reactors for use in U.S. nuclear weapons. Because of the potential adverse impact of the bill, I would like to describe briefly for you in general terms the U.S. plutonium supply situation, as we understand it today.

In the fall of 1980, the President recommended and Congress approved the initiation of several steps to increase weapon-grade plutonium production to meet U.S. weapons requirements. It was recognized that unless these steps were taken, we would not have sufficient material for security needs. If those production initiatives can be implemented on schedule and if we have no problems with our current production capabilities, we expect to meet the plutonium requirements for currently approved weapons programs. However, if we should have problems with our planned production or if additional weapons requirements are identified, then our planned supply of weapon-grade plutonium could be inadequate to support nuclear weapons programs. With the production increase initiated in 1980, all the available DOE defense reactors will be utilized for plutonium and tritium production. This administration is currently reviewing military plutonium requirements and this may well lead to such increased needs.

On November 4, 1981, you introduced, in conjunction with Senator Hart, a bill, S. 1812, that would amend section 57 of the Atomic Energy Act of 1954. The bill would prohibit the Nuclear Regulatory Commission from licensing any transfer of irradiated fuel or any special nuclear material originally contained in such fuel for use in a nuclear explosive device unless the President makes certain determinations and Congress acts favorably to approve such action. We are concerned about the precedent that this bill would establish and believe its enactment would be inadvisable.

In particular, our position is based on three major considerations:

First, we believe that the bill would place undue constraints on potential options that conceivably could be employed at some time in the future to satisfy future critical national defense requirements. These constraints could possibly result in excessive expenditures and gaps in meeting national defense requirements.

Second, we believe that the Congress already has the necessary review and oversight authority to help shape how future defense needs and requirements can best be met. At the same time, it could deprive us of flexibility before we have addressed the issue in depth and weighed all its implications.

And third, we believe that this bill could unilaterally constrain U.S. defense options in a way that does not apply to other nuclear weapons states such as the Soviet Union.

More specifically, I would repeat that no decision has been proposed, much less made, to use commercial spent reactor fuel for national defense purposes. Indeed, a decision may not be required for some time, if at all. We are now in the process of assessing all the different ways in which we might meet probable demands and the use of commercial-spent reactor fuel is only one option among many. It has been recognized that as a weapon state, we might have to shift from the civilian to military sector certain facilities or materials.

Further, article 1(c) of the U.S.-International Atomic Energy Agency Agreement gives us the explicit right to remove from safeguards nuclear materials when they have a direct national security significance. The other nuclear weapon states voluntarily participating in International Atomic Energy Agency safeguards, namely, France and the United Kingdom, have preserved similar flexibility.

In summary, I want to emphasize that we are evaluating many possible options for nuclear materials production to assure that the needs of the United States, both in the governmental and industrial sectors, are considered in the most cost beneficial ways within an appropriate schedule. Any options which might be recommended by the Department of Energy in the future would be considered at the highest Government levels before being forwarded to Congress by the administration. Such determinations would consider domestic institutional issues, foreign policy implications, including appropriate provisions of applicable international agreements and our nonproliferation objectives, as well as technicial, cost, and schedule factors.

In another context, in his recent statement on nuclear policy, the President has directed that an interagency review be undertaken of the feasibility and desirability of purchasing plutonium for DOE programs from the private sector as a possible incentive for commercial reprocessing. This review is just now beginning and obviously no recommendations or proposals for decision are before us. The review will also take all pertinent considerations fully into account. As noted, no decision has been proposed to utilize the plutonium from commercial reactor fuels in nuclear weapons. However, for the reasons noted above, the enactment of S. 1812 is inadvisable.

I hope my testimony today has provided additional insight into the Department of Energy's plutonium supply/demand situation and its relationship to S. 1812.

With the chairman's permission as Mr. Thomas mentioned, I would like to return the floor to Mr. Thomas to make a few concluding remarks before responding to your questions.

Senator PERCY. Thank you very much, Mr. Gilbert. Secretary Thomas?

Mr. THOMAS. Thank you, Mr. Chairman.

I have been on the road overseas for 3 of the last 5 weeks speaking with many of the nations with whom we share, both as allies and friends, interests in commercial nuclear power as well as interests in the nonproliferation and safeguards area. One of the matters which was presented to me informally on several occasions was concern about the U.S. reprocessing of spent commercial nuclear fuel for weapons applications. I have stressed to them, as you have heard in Secretary Malone's statement today, and again from my colleague from our Defense Programs Office, that we have taken no decisions within the administration to employ plutonium from our utility sector in our weapons program. And if we took this action, it would only be taken at the highest levels of the administration and after closest consultation with the Congress.

Senator COHEN. Mr. Chairman.

Then why do you object to the provision in the bill giving Congress a significant role in the determination? Dr. Gilbert said it may constrain U.S. defense options in a way that does not apply to other nuclear weapons states. Is that to say that because the Soviets have a different system and don't need the advice and consent of any politburo, we shouldn't have such a system?

Mr. THOMAS. I don't think there would be any suggestion of that, Senator Cohen.

Senator COHEN. Then what is the objection of Congress having a role?

Mr. THOMAS. I don't think there is an administration objection to Congress having a role at all. I think Congress already plays a role in the appropriations process to keep scrutiny over our weapons programs, and in these kinds of actions, as we said, reprocessing of many of these materials into plutonium would come from that environment. Therefore, the Congress has full and ample opportunity through existing authorities and responsibilities to oversee this program critically, should it ever come to pass.

The point I would stress right now is, indeed, there is no contemplation of such a program at this time in the administration. Many studies are being undertaken. And I think that maybe one of the things that has perhaps gotten a bit out of context, certainly it has been covered in the press, not so much internationally, and I have followed the international press on this subject, but an item of concern to us in its international context, as I said in my informal remarks earlier, it is of concern to us as the United States is viewed in its leadership role in this area. I have discussed this with the other assistant secretaries in the Energy Department. The sensitivity is there, unquestionably. Should we, however, not undertake studies such as were suggested by Dr. Gilbert, for the clear factual reasons provided in terms of our plutonium supply that may exist, that is the only stage we are in now, our suggestion is simply that it is premature to consider the bill. The consultation should clearly continue. If anything moves beyond the study level, I can assure from our standpoint within the Department of Energy that Congress is going to be advised, informed and consulted very, very closely before anything further were to happen. That is our position with respect to the bill only.

If I might, I would like to add a couple of informal remarks.

Senator COHEN. Let me clarify. What you would propose, if you do make a determination that you have to merge the two programs and have a fusion of the commercial product as such going for military purposes, that you would advise the Senate and the House in advance? Would you articulate this as the policy that is going to be pursued and leave it up to the Senate or House to reject that in the appropriations process? Is that the procedure you would recommend?

Mr. THOMAS. Obviously that is not my particular responsibility within the Department of Energy and Administration.

Senator COHEN. Isn't that what you just said though?

Mr. THOMAS. I would suggest to you within our consultation within the Department, and I believe in consonance with the statements you have heard from my two colleagues here as well, that we would not propose to move forward on any actual program to take such a shift from present policy without close consultation with the Congress first. That is what I have been advised would take place, and I would be quite surprised if anything to the contrary were to occur. This is a program of the nature which we are sensitive to, its international implications, its national implications, the military defense aspects, the appropriations process, all of it comes together in this particular area. We are sufficiently sensitive, Senator Cohen, that, indeed, I can't imagine the Congress would not be closely consulted.

Perhaps I could ask Mr. Malone to comment on that further.

Mr. MALONE. I certainly would concur with that, Senator Cohen. At least from the perspective of the State Department, we see any activity in this area as having serious potential nonproliferation consequences, and we would want to consider it very, very carefully before taking such a step. Now, I don't mean by saying that to in any wise predetermine the future as to what the determined needs might be for our weapons program, but we would see this as a very significant step, and we would certainly not want to take it without the closest consultations with the Congress.

I would want to make a point clear here. I think that so that there is no misunderstanding amongst us, the bill, of course, does provide under section 3 that there would be an actual act of Congress, a joint resolution, that would have to be taken in each case before a transfer could be made from civilian to military use. I don't think that is what we are talking about here. We are talking about the necessity of the closest consultation with Congress before any policy determination would be taken to this course of action.

Senator **Cohen**. Let me interrupt for a moment, Mr. Chairman. I will take my time, Mr. Chairman, if I could, on this one question.

Both Senators Percy and Senator Glenn have indicated that part of the difficulty has been on the foreign policy aspect, that many nations are somewhat concerned about what they perceive to be an inconsistent policy. I agree with Chairman Percy that the President made a very strong and important statement yesterday with respect to that. He also made an important statement in Ottawa with respect to the gas pipeline. Yet, only 3 weeks later—and I am trespassing on the Chairman's territory in this—there were Catepillars licensed to go to the Soviet Union, not to be used in that project, but nonetheless, going to the Soviet Union. This sent a signal to Japan that the lid was off and we were not serious. So it is one thing to say we are going to consult with and talk to and help to formulate a policy. It seems to me what we are concerned about is the separation, the difference between words and deeds. We say things and do something quite different. It is not only my concern, but an international concern as well.

Mr. **Malone**. Senator, the gas pipeline is something I do not have direct responsibility for. My scope of responsibility is wide enough. I hope you won't give me that one, too.

Senator **Cohen**. No, but we have some responsibility for that.

Mr. **Malone**. I know you do. I just wanted to indicate to you, however, in this area, I can assure you that, from our perspective at the State Department, as I have said, we would consider such a step as this to be a very significant one, having great potential impact in the nonproliferation area, and it is something that we would want taken only at the highest levels. I can certainly assure you of that. And it would certainly involve very close consultation with the Congress beforehand.

As I said in my prepared remarks, however, for all of the reasons there laid out, I think that it may be premature at this time to take this legislative action. I do not, however, prejudge the substance of what is being addressed here because I do consider it a serious problem.

Senator **Percy**. It is our job to think about policy, to see if it is not practical, if we are going to do research to see if it is feasible. You can get on the track. You get sort of committed. You get going on a program. We have a lot of things to do around here, and if we happen to decide it is not good policy to go down that track, we ought to send the signals out loud and clear. It will be a different kind of signal.

The only public reaction we have had to the bill is it is not tough enough. It provides one loophole which 11 respected organizations in this country want plugged up. At least we are getting the issue right out in the public.

Secretary Thomas, you wanted to finish a few remarks. Then we will get into a formalized structure.

Mr. **Malone**. May I make one point, Mr. Chairman. I can assure you that any options paper that would be considered on this point would note the very strong position of the Congress in this connection. So that you can be assured we would consider it very, very seriously.

Senator **Percy**. Senator Glenn and I are particularly sensitive about this, the word "consultation." You both used it, and we appreciate it very much indeed. We accept it. But so did President Carter when he said he would consult with the Congress before he would recognize the Peoples Republic of China. I remember that consultation. It occurred at the White House an hour before the President went on nationwide television to announce the policy. Senator Glenn sat there—not a Republican, but a Democrat. He went straight up through the group. If this is consultation, here is the speech that is going to be given, it has been rehearsed for today and now we have 1 hour advance notice of being consulted. The President at least knew what John Glenn thought about it. That is what we want to avoid. We would like to make sure consultation comes at the stage when we can have some real input, because we do have a sense of how this country feels. And you have to recognize Europe feels strongly about arms control and arms reduction. Much before that got out of hand, he would speak out as Governor Reagan, but now he speaks as President. He made that clear yesterday. This principle applies right here, and that is why these hearings are terribly important.

Secretary Thomas, if you could finish. Take all the time you want. Finish your summary and will go into questions.

Mr. **Thomas**. Thank you, Mr. Chairman.

Indeed, part of that informal summary responds to Senator Cohen's comment a bit further.

The nature of the studies that are underway in the consideration of the production of overall nuclear materials is a very long, drawnout process. It is a sophisticated manufacturing process, years in terms of time; many years advanced planning are necessary in this, as I am sure the committee is well aware. Appropriations of substantial magnitude may well be involved in this. It is not something that can happen in a quick timeframe. Therefore, I think the message from this committee is quite clear. The response that you certainly are receiving from me, and I believe from my colleague, Mr. Malone, we are indeed sensitive to this question. The administration is sensitive to the matter you have raised in here, and we will not be moving. We are in a study at this stage. Anything further we consider beyond that there will be, indeed, consultations, because it will be a time period of such extent involved that you simply can't turn that switch in a moment's notice, perhaps somewhat different from the example you used a little earlier.

I think I would like to close my comments by emphasizing President Reagan's administration is strongly supportive of the goal of nonproliferation. I believe the President's July 16 message made it clear we will continue to do all we can to strengthen the international nonproliferation regime, including IAEA safeguards. To be effective in this regard, the President believes it is essential the United States be perceived, however, as a stable and reliable supplier and a nation that is sensitive to the commercial nuclear power needs and interests of countries with good nonproliferation credentials. In my mind, the United States is on firm ground in striving to achieve a relationship with breeder and reprocessing programs in such countries where such programs do not pose a proliferation risk.

In many aspects, we have lost ground over the past few years in nuclear relationships with our allies, without necessarily enhancing worldwide nonproliferation. However, our recognition there is a necessary place for breeder development should not be misconstrued; we are now loosening all constraints or favor an unrestricted market in sensitive materials and facilities. Far from it. Rather, we intend to do whatever we can to assure that the international nonproliferation regime keeps pace with the global growth and use of nuclear power, and continued restraint and critical oversight is applied in the export of the sensitive facilities and materials.

As a final addendum, Mr. Chairman, as the U.S. representative to the Steering Committee of the Nuclear Energy Agency, I have recently returned from a meeting of that body in Paris, and spoke at length with the secretary general of the OECD and principal allies, trading partners associated with that organization who encompass those who would be primarily concerned with the export of the material which you have referred you are concerned about in this committee. We have made an effort as the United States in this administration to strengthen, for example, our relationship and our work within that OECD principal body. We have proposed a candidate for the director generalship of that particular body, and we have already had bilateral consultations with most of the principal commercial nuclear power forces which would indeed be the principal exporters to other parts of the world. We are seeking other forums, other mechanisms, where we can impress on these countries and indeed strive to assure that the export of materials and safeguards under IAEA are indeed followed closely by these other countries, not only the United States, and that we use whatever mechanisms that we can to assure that nonproliferation is a reality, not just a facade.

Thank you, Mr. Chairman.

Senator PERCY. Thank you very much, indeed. And for the guidance of our panel members, because we do have a 12:30 luncheon, we will have to finish the hearing by then. We will keep the record open for submission of questions for present members and other members to be answered in writing.

Senator GLENN. And we have an 11:30 vote.

Senator PERCY. Yes; and let's plan on rotating on that vote so we don't interrupt the panel at all and need to recess the hearing.

I would at this time like to yield out of my own time—we will have a 10-minute time limitation so we can have at least two go-arounds—one question for Senator Cohen on the source of the atomic fuel for South Africa.

Senator COHEN. One question, Mr. Chairman, and one just observation. Just as you and Senator Glenn were surprised about the decision on China, I was called upon to have dinner with the Ambassador of Taiwan 24 hours before that decision was made. I was having dinner with him in Arizona and was called upon to give a toast to our longstanding, good relationship. So much for prior consultation. I won't tell you what the toast was. [Laugher.]

I would submit to you that the appropriations process is probably the wrong place for Congress to start exercising its oversight. Once either a weapon system or a policy becomes established, it comes to the floor of the Senate or House, it is defeated in appropriations, and you are charged with undermining the President's foreign policy activities or jeopardizing our national security. So I think we ought to be careful about using that process.

I have one question. There were two articles that appeared recently. One, in the Post, on Thursday, November 19, says that U.S. officials are convinced the enriched uranium for South Africa originated from China. I would like to have reaction from our State Department. Plus, in "Energy Daily," Wednesday, November 18, an article by Ann McLachlin says that the French are undercutting U.S. efforts in the ability to control nuclear proliferation. I would like your reaction on that.

Mr. MALONE. Senator, I am, of course, aware of both of those articles to which you refer. I have to indicate to you that we have no definitive information one way or the other that the fuel that is being fabricated in France, the enriched uranium for the Koberg reactors, and I mentioned this in my prepared remarks, has come from the People's Republic of China. We think it rather likely that it has probably come from another source within the community. I would be hesitant about discussing in open session the entire People's Republic of China relationship with South Africa. I would be delighted to do that in a closed session. But I think that I can answer your question as I just have and indicate to you that I do not agree with Ann McLachlin or Don Oberdorfer and his colleague this morning that this is necessarily the source of that fuel which the French have a longstanding contract to fabricate, if that fuel was supplied to them by South Africa. And I assume that they are going to go ahead and do that, and, of course, this is not U.S.-source fuel and consequently the United States has no specific right of approval over it.

Senator COHEN. Thank you, Mr. Chairman.

Senator PERCY. Thank you very much indeed.

Mr. Thomas, just a question or two for you, and then I will turn to Secretary Malone.

The Department of Energy has had, as was quite apparent from the beginning of this administration, a very strong nuclear emphasis. I am a strong supporter of nuclear power. Our State is the most dependent of any State on nuclear power for the generation of electricity. But I am concerned about the overemphasis of nuclear technology. We could end up almost loving it to death because there is a great danger that widespread usage of nuclear power could also spread nuclear weapons. Some of the nuclear technologies strongly supported by the DOE, like the breeder reactor and reprocessing, are also types of nuclear activities with the greatest proliferation concern, as we all know. While I disagree with much of the last administraion's approach to nuclear proliferation, which seemed to emphasize example over results, I am concerned we are not paying enough attention to the effect of what we do here at home on our international efforts to stop the spread of nuclear weapons.

When DOE shifted its priority away from developing a diverse group of energy technologies to nuclear, what emphasis was given in your deliberations to nonproliferation concerns?

Mr. THOMAS. Well, Mr. Chairman, I was not privy to those earlier discussions in this administration, having held my present post for the grand total of about 3 months, most of which, as I have suggested, has been overseas. However, I can give you some views as to consultations and discussions we have had in the Department on this particular subject.

In all of our discussions that I have had with my colleagues, the principal officers of the Department, the question of nonproliferation is a constant one and there is virtually no discussion when we deal with supply, components, development in commercial nuclear power throughout the world that we don't turn to the question of the proliferation potential, proliferation ramifications there. We are highly sensitive to that. I think one of the reasons that we are most sensitive to that is because of, above all, with our weapons responsibilities in the Department of Energy, most of us I think who have had a long-time association with weapons programs fully understand the realities of indeed what can occur in such a weapons or device environment.

By the same token, Mr. Chairman, we don't feel at all comfortable that the policies that have been pursued prior to January of this year were achieving our desired, and perhaps laudatory, goals of clearly restricting proliferation. We see breeders coming on worldwide in a number of areas in decades to come. We see, indeed, increasing reliance on commercial nuclear power, and my travels throughout the world indicate, by and large, programs are proceeding apace. A few areas have slowed down, but, nonetheless, they are clearly proceeding apace. Under those considerations, we believe that one of our best recourses in the nonproliferation area is to assure many of these countries if they are pursuing nuclear programs and are tied in with the IAEA safeguards firmly, and our nonproliferation activities, they would be better served and we would be better served, in most respects, by having the United States be their principal supplier and controller of the components associated with those nuclear programs. We believe that this may give us indeed some of the best possible leverage to promote our nonproliferation objectives. The reliability of the United States as a supplier should help to reduce the potential for proliferation and device construction. I can assure, Mr. Chairman, that that type of a discussion is a weekly event with those of us who are concerned about this question in the Department.

Senator PERCY. Could you be specific about the magnitude of the decision and its impact abroad. What nonproliferation concerns were considered when DOE decided to go ahead with the breeder reactor and reprocessing?

Mr. THOMAS. Mr. Chairman, I would have to defer personally from this since I was not privy to those discussions at the time. I simply was not involved with that.

Senator PERCY. Did any of your colleagues participate?

Mr. THOMAS. Mr. Bengelsdorf, would you care to reply?

Mr. BENGELSDORF. I can only say, Mr. Chairman, I think you alluded to some of the dilemmas the previous administration had; namely, were we really achieving our energy values and our nonproliferation goals by foreswearing these technologies? And I think the perception, which didn't happen at one point in time but seemed to evolve over months—indeed I frankly think there were concerns about our directions even by elements in the prior administration—was that our interest would be better served on the energy side by moving forward with our breeder development program, and that we were not really deterring reprocessing in advanced countries that are dependent on breeder technology by foreswearing this technology ourselves. Reprocessing is an integral part of breeder development domestically, and several countries are pursuing breeder development. During recent years the United States lost momentum in its breeder program. From an energy standpoint we have felt that we should restore vigor to our breeder program and that in this process our competence in the area of safeguards, our knowledge of dealing with safeguards, and related matters would be enhanced. We judged that it is hard to have an influence on nonproliferation constraints in some areas if you are not involved in the development of the technology.

Senator PERCY. A final question in that area. When DOE decided to accelerate research into the laser process that would allow us to use commercial nuclear fuel for weapons, what nonproliferation concerns were considered then?

Mr. GILBERT. If I may, Senator Percy, I would like to comment on that.

Basically, when we initiated the isotope separation process—the research and development into that process and its potential application to plutonium—we were interested, and still are, as our major goal, in cleaning up the plutonium that is already in U.S. Government hands for utilization in the weapons program. And we saw it as a means of reducing the radiation from existing weapons-grade plutonium and also for reducing radiation background from material that we had which is not of weapons-grade but which could be improved by this particular process.

Now, we did indeed foresee that such a process has the potential for application to commercial plutonium, or plutonium obtained from commercial fuels. However, the isotope separation processes that we are looking at are closely related to those which are also applied to uranium and therefore are present at the present time in many countries in the world. In addition, it should be emphasized that isotope separation applied to plutonium improves its utility, but does not make a weapon material out of a nonweapon material.

The same research and development is going on in Russia. I visited a few years ago—in fact, as long as 6 or 7 years ago—the institute in Moscow where similar research is going on. I know it is going on in France. I know it is going on in England, and I am pretty sure it is going on in some other places. Therefore, it is hard for me to understand or necessarily feel, that this particular avenue in the United States would have much effect on what those other countries are going to do in the future.

Senator PERCY. Well, thank you very much.

I will turn to Senator Glenn now. My time is up. But I would like to make this observation. The reason I really wanted you to appear this morning, Secretary Thomas, I have concluded, and I don't know whether Senator Glenn has come to the same conclusion or not, is that I was encouraged to hear that certain decisions, from both representatives of DOE and the State Department, will not be made until there is consultation. They will not be reached and made in the executive branch unless it is at the highest level. I presume that is a way of saying the President, is that correct? The President would actually make the basic decisions, as you have said when you said at the highest level. If that is true, my concern has been that nonproliferation has not really been given the attention at the highest levels of the Department of Energy. If you are going to buck this problem of the final decision to the President, then certainly it ought to be a matter of the highest priority within the Department. And that means the Secretary, or certainly a policy decision at the lowest level should be at the Assistant Secretary level. Therefore, if we could just have a commitment from you that you, personally, look upon this as your duty and a responsibility that falls within your province. As a condition of your confirmation we just assumed you had a personal commitment to nonproliferation and a reason to see that nonproliferation considerations, as head of international affairs for DOE, would be one of your primary concerns. I would be reassured and this whole hearing would have been worth while for me with that assurance. Do we have that assurance from you?

Senator Glenn, would you want to join me in getting that assurance?

Senator GLENN. Ditto.

Mr. THOMAS. Mr. Chairman, let me put it this way, if I may.

Senator PERCY. I will listen carefully. I will turn up my hearing aid.

Mr. THOMAS. I will probably consult following this hearing with Secretary Edwards on this subject directly and with Deputy Secretary Davis. My understanding from Deputy Secretary Davis, in particular, with whom I have been working closely on this, and as you have heard in testimony this morning and in our statements, these are only in the study stage. No decision has been made. We understand the implications both to domestic policy and the potential foreign policy application of such action, should we take it here. Therefore, we simply cannot envision that a decision to go forward with such a program could be taken at any but the highest level. And I am afraid I am not in a position to say that decision would be made by the President. I am not sure who makes decisions at the highest level.

Senator PERCY. What is the highest level then if it isn't the President?

Mr. THOMAS. I can certainly not imagine that a decision could be made within the Department of Energy without the Secretary himself signing off. I am sure, likewise, it would not be done—and I would have to turn to my colleague—without the Secretary of State concurring in this. I have a strong personal feeling based on the importance I sense to this issue that it would go higher than that. That is the best I can give you at this point. Perhaps I will be able to respond more after consultation.

Senator PERCY. If you could be more precise about one aspect. As these decisions are going to be made, and they are going to be made at the highest level within the Department, as they are being made and deliberations are held with you and your colleagues, would your voice be the voice that is the advocate for nonproliferation? Because that is a part of your statutory responsibility, you and you alone have that responsibility in your charter. It certainly covers the Secretary. But would you be a strong voice for nonproliferation? Can we personally look to you to carry that role as these matters are discussed within the Department?

Mr. THOMAS. With respect to the international——

Senator PERCY. All you have to say is yes.

Mr. THOMAS. With respect to international implications of those actions, you may be assured of that.

Senator PERCY. I thank you very much indeed.

Senator Glenn, why don't you take 15 minutes.

Senator GLENN. These answers aren't quite what I hoped, but I guess they are more than we might have obtained, so I guess we are making some progress here.

With regard to the legislation before us that Senator Percy has put in, I have not yet committed which way I am going to go on this. There are two major considerations on this. One, this would be a very big step in the minds of many people around the world and create an impression that perhaps needs correcting. Perhaps it is just a PR problem, but many may see use of our peacful, civilian nuclear materials for military needs as tying them up together in a way that can impede the legitimate uses of nuclear power. I don't think this overstates it, because we see domonstrations in Europe. They are not demonstrations just against the bomb, but against everything nuclear. They tie all these issues together. We are now seeing that in our own country. We saw them in previous years in Japan. I was in Japan once observing one of those demonstrations and was impressed with it. It is against everything nuclear. And when we try to tie these programs together and say we are going to use the materials out of one program to further the military program, we run into a PR problem I don't know we can separate.

Now, on the other hand, this is like making good use of garbage in some respects. We are talking a leftover material and doing something valuable for our national security with material that we are going to have to dispose of in some fashion anyway. So I am torn two ways as to what direction we should be going.

Having said that, let me get back to Dr. Gilbert. The reason some of this has come up is because of the reports of our plutonium requirements by the year 1990, our so-called window of vulnerability. We don't want to get into numbers on some of these things which are classified obviously, but it has been suggested by some administration spokesmen that we will be either forced to do one of two things. We either reprocess commercial spent fuel or we buy plutonium from Great Britain or France. Aren't there some other alternative things we could do to meet our requirements? Is that our decision, or aren't there some things we can do other than those?

Mr. GILBERT. Yes, Senator Glenn, as was mentioned earlier, there are a variety of alternatives that we have been looking at for obtaining additional material for the weapons program, if it should be so required. Among those would be some further steps we can take to increase the efficeincy of our existing reactors, both the Savannah River reactors and the DOE reactor at Richland.

Senator GLENN. Let me ask some questions along that line, because I have been told that we could increase our plutonium at the three Savannah River reactors by some 25 percent. Is that a reasonably accurate figure?

Mr. GILBERT. That number, we think, is a little high, partly because all of those reactors could not necessarily be devoted to plutonium production. But we do think we could increase our plutonium production by converting them to a more efficient fuel utilization, instead of highly enriched uranium using low enriched uranium, which for any one reactor could give a 25-percent increase.

Senator GLENN. The method I have been told about is that we could use more efficient fuel loading, using 1.1 enriched fuel rods instead of the present ones used.

Mr. GILBERT. That is exactly right.

Senator GLENN. Is it true we could also increase our output of plutonium by some 15 or 20 percent by operating the Savannah River reactors and the Hanford reactor by using higher thermal ratings than we are doing now?

Mr. GILBERT. Yes. I am not sure about the 15 or 20 percent, but we could get higher efficiencies by operating somewhat higher. They are designed and built to take a little bit higher powers, and we could, by increasing water flows through those reactors, operate them a little higher. We would obviously not want to push that very far.

Senator GLENN. Also, I understand that we have some 8 tons of fuel-grade plutonium that could be used in conjunction with the laser isotope separation that is at the N reactor, that we could use that to produce weapons-grade plutonium; is that correct?

Mr. GILBERT. That is correct, approximately. The number is about right for available plutonium. Actually, DOE owns about 16 tons total of fuel-grade plutonium, most of which came from the N reactor in the past. Some of the material you are talking about there is still unprocessed in the basin at the N reactor, or in other reactor fuel. However, we are preparing the Purex reprocessing facility there so in the future we would be able to process that fuel and obtain that plutonium. We could use it for weapons purposes, yes, sir.

Senator GLENN. Also, as another one, if we just simply postponed the Clinch River breeder reactor and ran the fast flux test facility on a reduced duty cycle, the additional plutonium that would have been consumed by these projects, if put into weapons programs, would provide enough plutonium so that we could meet the number that is contained in the plutonium stockpile memorandum; is that correct?

Mr. **Gilbert**. Well, first of all, the stockpile memorandum that is approved was signed by President Carter in the fall of 1980. We can meet the weapons requirements of that particular stockpile memorandum if all of our production capabilities hold up, and in addition we can meet the breeder requirements for fuel at least through the year 1991.

Now, I think what you are referring to is a potential new stockpile memorandum. It has not been approved. We have been looking at various options for that, possibilities for that stockpile memorandum. The ones that we have been recently looking at are such that we could meet the weapon requirements by utilizing this fuel-grade plutonium at Hanford, that you referred to earlier, for weapons purposes, either using isotope seapration to clean it up, or some of it—not a lot of it—could be blended with some of our existing plutonium to increase the amount of weapons-grade plutonium. Then, though, we would lack the fuel-grade plutonium for the breeder reactor. We feel we could obtain that plutonium perhaps from other sources, as you mentioned earlier.

Senator **Glenn**. Well, an article reported in the Energy Daily on November 3, with the headline, "U.S. To Buy British Plutonium," states we have secrets talks underway that would end up with two deals, a civilian one to supply plutonium for the breeder, plus a military one to supply the United States with plutonium. Was that report accurate?

Mr. **Gilbert**. That report is not totally accurate. With your forbearance, I would not like to go into the details of our mutual defense arrangements with the United Kingdom. However, I can say that we have talked informally with British officials to learn what they have available in the way of plutonium that we could utilize in our civilian, our nonmilitary, R. & D. program, including the breeder program. We have not undertaken any formal negotiation with the United Kingdom to obtain any of our material.

Senator **Glenn**. Mr. Thomas, you said in you comments we are not abandoning our efforts to prevent the spread of nuclear weapons around the world, and you said we are going to do whatever we can along that line. What are we going to do? What will we do to control this? We seem to be laying down the old protections we have been using. What new proposals are you going to use to control the spread?

Mr. **Thomas**. Mr. Chairman, I am not proposing personally to put anything forward at this point. What I was referring to was the pragmatic realization by all of us who are concerned about proliferation and at the same time have a strong desire to reestablish the United States as a stable and assured commercial nuclear supplier to those countries who join with us in consideration of nonproliferation risk and safeguard concerns. In this regard, I mention only one of the items that I have taken personally to task, with respect to the forum of the Nuclear Energy Agency, where we can deal very closely with other nuclear supplier nations in the world. I have taken a personal and direct interest in that to assure that that can become desirably a forum for discussions with these nations, some of whom have been cited by the committee today in remarks, that are indeed involved in the transfer of nuclear materials.

Senator Glenn. My concern is that, we just can't do the job with NNPA, alone, and IAEA doesn't do the job, because the way people make bombs is with reprocessing plants and enriched uranium. IAEA safeguards are a materials accounting process, and that is all they are. And safeguards is probably a bad name for it to begin with. It is not safe and it doesn't guard anything. It is just a means for trying to account for material going through. It doesn't have anything to do with enriching plants and reprocessing plants. That is why it was quite vexing for me when the administration put forward efforts to undo the Symington amendment. Their objective wasn't just to change for, but to undo it on a permanent basis. So I don't understand here what the protections are going to be if we are going to cut down the spread of nuclear weapons around the world, how we are going to do it if we don't use that one point here of controlling the enriching and reprocessing capability of countries and stop that technology from rapidly spreading. I think we have very, very few years to control this, and beyond that time we will see that any nation that wants a bomb will have it.

You mentioned IAEA is a control, one of the things we are going to insist on. Yet, that doesn't prevent bombs.

Mr. Thomas. Well, it certainly has a difficult chore ahead of it in preventing bombs in the sense it has a major role to play, Mr. Chairman. Indeed, the identification of the diversion of critical materials is a significant factor, and to the extent that IEA is able to identify the diversion of particular materials we can bring that matter, of course, to the attention of the countries concerned who may be involved with that country's supply and component programs.

Again, as was mentioned in several statements here today, our problem is that the United States is not the sole purveyor of the information of materials. There are a number of other countries involved in this activity, and the last several years have demonstrated although the United States may have endeavored to exercise very strong restraint, this did not preclude other nations from moving forward as suppliers. That is our problem, pure and simple.

Senator Glenn. I agree with you that that has probably occurred. I think we have had beneficial effect. I think we raised world awareness. I think maybe the French followed our lead for a while and we were influential in preventing some deals they were going forward with. So I don't think we were without effect. But I think we backed off on our leadership position and just went back to the business-as-usual attitude, and that is where we are right now. We really have not really leaned on other countries diplomatically to try to set them to follow our lead. We had this opportunity with a small number of supplier nations to get agreement in that group. That is the reason it was such an important thing, I thought, that the President take that to the Ottawa summit. It was immediately after the Israeli raid on Iraq. That focused world attention on what can happen. If there was ever an opportunity to get the world nuclear suppliers to get together, it was then, a few days after the Israeli raid on Iraq. That is the reason I think that my resolution went through on the Senate floor 88 to nothing, and yet it was sort of ignored. It wasn't sort of ignored, it was specifically ignored, and that is what is so disturbing.

I just see us going the wrong direction on this. And I am not trying to defend NNPA. I think there are lots of changes that could be made to make it better. I think when we go the other route, as we are, and say we are going to take the other tack instead of going the government-to-government route trying to get agreed upon restrictions, I am greatly disturbed we decided this approval was better after much debate when we were considering the NNPA. We debated whether it was better to get business involved and control things that way or whether we were going the government-to-government route. Over those lengthy debates and discussions we decided it would be better to go government-to-government because it is so important. We are in the process at the other end of the avenue of reversing that approval completely and going back to a process of involving basically only private industry in this, and we will have very little control over this field. I guess that the technology will spread and nations that want bombs will get bombs, and we won't make an effort to control it.

Let me ask a specific question. My staff has had some information from one of the publications, Inside Energy, to the effect that the second part of the Presidential decision memo gives a directive to the Department of Energy to prepare a review of ways that some or all of our present enrichment business can be transferred to the private sector. Is that true? It is a decision memo of November 12, the one that you allowed transfer of enrichment technology to Australia. Is that correct?

Mr. BENGELSDORF. Senator, I am not certain of the classification of the communication. I think we would prefer to talk about it in executive session.

Senator GLENN. Is it classified?

Mr. MALONE. It is, Senator.

Senator GLENN. I find it a little difficult to see how that would be classified. But it is.

The Inside Energy issue that comes out tomorrow morning says:

> Reagan Calls for Private Enrichment; Approves U.S.-to-Australian Transfer. President Reagan has urged DOE to move toward transferring its uranium-enrichment business to private industry, directing the Department to study in depth the possibilities for such a transfer, Inside Energy has learned. According to Administration officials, the directive is part of a November 12 decision memorandum in which Reagan conditionally approves the transfer of classified centrifuge-enrichment technology to a consortium of Australian companies trying to start up an enrichment business in their country. The directive stipulates that the transfer is to be made by U.S. companies rather than by DOE, the current owner of the technology.

Is that correct?

Mr. MALONE. Senator, this is not I suppose really my jurisdiction, but if I may just make a general response here. I believe that that was a classified document. As you are well aware, I, in my area, have run into a couple of instances recently with classified documents getting out into the press, unfortunately—you referred to one of them earlier in your opening remarks. So, I believe that in light of the fact it is classified, I am not sure the source of where the people that Inside Energy got that, but I think it would be more appropriate if it were commented on in executive session.

Senator GLENN. I had completely forgotten we have been on five lights about 5 minutes. They are holding the vote for me. We will recess until Senator Percy returns.

[Brief recess.]

Senator PERCY. Secretary Malone, I believe you have expressed my unhappiness with the Carter administration program in which I felt at the same time that they were enraging our allies, they were hurting our domestic nuclear industry unnecessarily. Now my concern is the other way. We may be swinging a little bit too far in this pendulum. And I would like to put the same question to you on nonproliferation.

What considerations were given in the State Department during the decisions on the breeder reactor and reprocessing, when the decision was made by the administration to go ahead with that, how much consideration was given to the nonproliferation issue?

Mr. MALONE. Well, Mr. Chairman, you are specifically referring to the domestic situation with regard to reprocessing and breeder, so that I would have to defer on that aspect of it to my colleagues from DOE.

Senator PERCY. Do either of your colleagues in the State Department have any knowledge as to what consideration was given in the Department?

Mr. MALONE. We did not really have a significant role in that decision is the answer, Senator.

Senator PERCY. Why weren't you involved in this decision?

Mr. MALONE. I think that it was deemed to be largely a domestic decision. But, again, I would not like to comment really further on that other than to say that I was not directly involved in making this decision. It was my understanding that it was made largely at DOE, but it was not something that I was involved in.

Senator PERCY. Again, we do confuse ourselves sometimes, and certainly our allies and our adversaries as well, when we change administrations and there is a lack of coordination between administrations on policy. Here we had a 180 percent turn, and the previous administration decision certainly took into account nonproliferation aspects and we decided not to go ahead. Why would this administration not then feel that there are international implications and fully take into account the State Department? I am alarmed on my other behalf, the Foreign Relations Committee. Why deal the State Department out on these matters? If there is any issue that affects all the human race and our relations with every nation on earth, it is this. To have the State Department not fully consulted is really shocking to me.

Mr. MALONE. Of course, Senator, the decision with regard to the President's announcement on July 16 concerning what our position would be with regard to reprocessing in countries with advanced programs where there was not a significant proliferation risk was very much taken with the direct participation of the State Department. My interpretation, however, of your question was the later discussion with regard to the domestic decision, and I have to say I was not involved with that.

Senator PERCY. Yes; on the domestic aspect of it. My question to you dealt entirely with the international implications, and I still would like very much to have an answer provided either now or for the record as to what the State Department's role and its input was into the international aspects of it.

Mr. **Malone**. If I may, so that our response may be entirely complete on that, Mr. Chairman, I would like to submit that for the record.

Senator **Percy**. All right, fine.

Mr. **Malone**. And if there is any clarification of which I am personally unaware with regard to the domestic situation, I would also like to submit that.

Senator **Percy**. And, Secretary Thomas, if you could get back to us for the record as to the role of the Department of Energy in the breeder decision and what consideration was given to the nonproliferation aspects of it, fill the record out as much as you can.

Mr. **Thomas**. We will, Mr. Chairman.

[The information referred to follows:]

The Department of Energy actively participated in the formulation of the President's nonproliferation message of July 16, 1981, as well as the domestic nuclear policy statement of October 8, 1981. Given its belief in the breeder as a potentially attractive energy source, the Department has felt it necessary to restore momentum to the U.S. breeder development program by moving forward with demonstration of breeder reactor technology. Our objective is to develop the breeder to the point where it can be put to commercial use when this is necessary. Nonproliferation and international nuclear cooperation were also factors which were taken into account. We concluded that the attitude of the previous administration was proving to be counter-productive to U.S. international nuclear and nonproliferation objectives. Our allies in Western Europe and Japan who have a serious interest in breeder programs were concerned about the position of the previous administration which they believed to be hostile to their breeder programs and energy needs in spite of their excellent nonproliferation credentials. In his message of July 16, 1981, President Reagan emphasized that his administration would not seek to inhibit or set back reprocessing and breeder reactor development abroad in nations with advanced nuclear power programs where it does not constitute a proliferation risk. At the same time, the President stated that we will continue to inhibit the transfer of sensitive nuclear material, equipment and technology, particularly where the danger of proliferation demands.

We also have felt that the United States will continue to lose significant influence in the international nuclear field—including the area of nonproliferation—if vitality is not restored to the U.S. breeder program. Accordingly, we supported the decision to move forward with the breeder as consistent with our foreign policy as well as domestic energy objectives. We strongly endorsed President Reagan's commitment to nonproliferation as a fundamental national security and foreign policy objective.

Senator **Percy**. In battling for the administration's position on F-16 sales to Pakistan, which was the centerpiece of their policy in the Near East, I could do so in good conscience in the Foreign Relations Committee and on the floor simply because of the one question of nonproliferation—what this sale will do in giving assurance to the Pakistanis that they do have a friend who, with conventional weapons, will back up their legitimate concerns as they face an adversary that has brutally invaded a neighboring country. They have got to be able to defend themselves. If we don't supply conventional weapons, they are going to go the nuclear route. We know they are going that route, and we have to have leverage over it. It means something if we will automatically cut any country off that detonates a device. That is as strong a hold as we can have. Then they have to weigh the reality of cutting something off that is truly significant. We are talking a billion here. As Everett Dirksen used to say, we are talking real dollars. We are in the $3 billion levels. That gives the leverage on nonproliferation to turn votes automatically for the sale. That enabled us to get the votes to sustain the administration's position last week as we carried it to the floor.

Nonproliferation is an objective that must be integrated with the rest of our foreign policy, and I do agree with the administration that the immediate causes of proliferation usually involve regional security issues. While American security assistance might address some nations' motives for developing nuclear weapons, we must do more to offer alternatives to nuclear power and certainly the Secretary has efforts which we trust will be effective with Pakistan.

The administration recently turned against the World Bank's proposal to establish an energy affiliate. Were the nonproliferation implications of this decision taken under consideration?

Mr. **Malone**. That was taken into consideration, as far as I am aware, Mr. Chairman. That decision, however, was not made, again, within my area of responsibility on the energy affiliate. That was something that came in the New and Renewable Energies Conference, as you recall at Nairobi. It was a follow-on from that. That was really more in the AID ambit than it was in ours.

Senator, I wonder if I might just recur for a moment to what you said about Pakistan to underscore a point, and perhaps add one or two others. I think one of the significant things that this administration is trying to do with its nuclear policy is illustrative, as you have just said, in Pakistan. Our program of denial in Pakistan in 1979 certainly was not greatly effective in deterring the nuclear course. We cannot, of course, say that attempting to meet the Pakistanis legitimate security concerns and therefore to have an impact upon their motivation to go nuclear is going to be successful either. We think there is a relatively good chance that it will be successful. We are certainly hoping it will be successful. We have made it abundantly clear, as you are well aware, to the Pakistanis that if they should move to test a nuclear device, that this would have the greatest implications, and indeed would in effect sever our relationship with them. But we are also backing that up, I might add, by close cooperation with other supplier nations, and we are making very significant efforts in that area. I think there has been some comment made to the fact perhaps we don't consider this an important thing and we are not making the efforts there. I can assure you that we certainly are making very, very strong efforts. So that these are two significant aspects of President Reagan's policy that we are bringing markedly to bear on a case where proliferation risk is involved, and we certainly hope it will be effective indeterring, slowing down or stopping that.

And I just want to state in the very strongest terms for the administration that, as the President said in his July statement, one of the first things he put in his statement was that nonproliferation remains an absolutely essential, absolutely first-rank priority, and we are going to pursue it vigorously.

Senator **Percy**. Well, I appreciate that. And now that we have mentioned Pakistan, I will start with the premise of the gut feeling I had. If we are going to have a nuclear exchange, as I said in my opening comments, I don't think it is going to be between the Soviet Union and the United States. I don't think it is going to be in the Middle East either. I think it could be in the Near East. And it is an area I have spent a quarter of a century studying so I could learn as much as I can about that whole area. There is hardly a corner of India and Pakistan I haven't been into. I have been in more areas than 99 percent of that population. The emotion of the people, the potential for miscalculations all the way around are immense. And I come back constantly to the fact that though I dislike elevating the level of sophistication, they have forced our hand by the level of sophistication the Soviets have put into India. We, therefore, have to have a conventional counterbalance to it. And it is the nonproliferation attitude and concerns I have had that have caused me to fight hard now for the F-16's to Pakistan.

If nonproliferation is to be as high in our minds as it must be again, I would like the same assurance from you, Secretary Malone, that you are the nonproliferation person in the State Department, you are the one where nonproliferation aspects will permeate every decision you make. And when you indicate that you were not in on a basic decision fought for by me, fought for by Senator Javits, who really felt he promoted a great venture for the World Bank to take these developing countries that are so in need of help and give them energy alternatives and put a high emphasis on that, because we know energy costs are eating them up—it is the bulk of all bilateral and multilateral assistance we can give to them and that just holds them even, that is how devastating high energy costs are—then to have the tremendous emphasis we are putting on nuclear, with the prestige it seems to have all over the world, I just wonder who is saying let's find as many other alternatives as we can. The World Bank is one of the places to do it. Why didn't we support that? Why wasn't nonproliferation a very high consideration before taking a negative position on something the World Bank really wanted to do?

Mr. MALONE. I think, as I recall, the Bank situation was setting up a separate energy bank. I think that there were concerns there as to whether that was necessary to accomplish the goals that I think that you are very rightly alluding to. Obviously, energy is a critical concern in many countries, and we have to do everything that we can to assist them with that. In many countries the only alternative is nuclear. I might just add that. But I think that the way one approached the matter as far as the Bank situation was concerned was the greater aspect of the concern, not a disregard for the energy problem that existed there.

Senator PERCY. I would be disappointed if on an issue of that kind you were not involved. I would like to know, Secretary Malone, were you involved in the decisionmaking process that led to DOE developing a process that would allow civilian nuclear fuel to be used to make weapons? This could undercut our nonproliferation diplomacy by raising tension between peaceful and military nuclear technology. When the decision was made to accelerate research in this area, were you consulted on that to determine whether there was an international proliferation implication? Did you have any input into it?

Mr. MALONE. As I mentioned earlier, Mr. Chairman, obviously we were aware of this. This is not a matter that has come to a decision as yet in any way. I have already expressed the fact that I have concerns with regard to the proliferation aspects of this matter. As long as it is in an R. & D. status where no decision has been taken, the full impact I suppose of the State Department at that level is perhaps not appropriate. I think before any decision were taken, and I state this again rather strongly, obviously the proliferation implications of this internationally would have to be considered very, very gravely, and I certainly stand by that.

Senator PERCY. I am glad to have that assurance.

Specifically, could I give you a choice between two provisions in the bill that I have introduced. The 11 organizations that wrote to me want the waiver removed from the bill. They want absolute prohibition. Given the choice of an absolute prohibition or the bill with a waiver in it, which would you prefer? And then would you want to comment on the bill itself?

Mr. MALONE. As I mentioned in my opening remarks, Mr. Chairman, I did not want to address the bill itself. We have not really focused our attention on that other than, as I have indicated before, to indicate, for the reasons that we have previously stated, that we think that at this time it may be premature to go ahead with the bill. Frankly, before taking any decision further than that, I think that the State Department at least would want to consider it extensively.

Senator PERCY. Fine, if you would do that we would appreciate it.

Mr. MALONE. We will do that.

Senator PERCY. The Washington Post did recently carry an article I am sure that you are familiar with based upon a memorandum that you issued spelling out the pros and cons of various changes in our nonproliferation law. As the Assistant Secretary with primary responsibility for nonproliferation policy, your thoughts are extremely important to us. While I understand that you are still formulating your policy, it is not certainly shaped up yet, can we look to the memorandum as representing your thoughts on the changes needed in the present law? What problems do you see in the present law?

Mr. MALONE. Well, we are, of course, looking at this matter at the present time, Mr. Chairman. Let me just go back and indicate that in the President's statement in July, he specifically requested that we look at ways that improvements in nonproliferation might be made, and whether changes in the relevant laws and regulations might be made that would be of assistance in this regard. Consequently, we have been in the process of carrying out what has been mandated by that July statement in trying to consider the various aspects of what might be done. Now, the paper to which you refer, and which was a classified paper that appeared in the Washington Post, was strictly a discussion paper; it was nondecisional in nature. It called for no decision. Indeed, there was a meeting held in connection with it after the paper appeared in the press, and I might just say if one really reads the paper closely and then looks at the press report, the press report is rather sensationalist in terms of imminent decisions that are about to be taken. The paper certainly doesn't indicate that at all. But the paper was merely a piece for discussion and consideration.

After the meetings in connection with this paper, as I mentioned in my opening remarks, the position at the present time is that we have taken no decision to make any changes with regard to the

NNPA or any other relevant legislation. Now, we still are considering this matter, and I would not want to say what the long-range, future decision would be. It will certainly be a decision that is only taken after discussion with those of you in the Congress that have particular concerns in this area. But certainly in this case no decision was taken, no decision has been taken, and no decision is imminent in any way.

Senator **Percy**. You did say a moment ago that some nations have only a nuclear option. Could you name one of these nations, and could they also have a coal option? Illinois coal or Ohio coal, even West Virginia coal.

Senator **Glenn**. We are not parochial, you understand.

Mr. **Malone**. Well, there are varying degrees of what I really meant by that. There are a number of nations that are essentially without natural resource, without coal, without oil, without really significant natural resource alternatives. I would prefer not to go into the specific countries in any great detail. However, I would indicate that, as you are well aware, certainly in the case of Japan they are very, very limited in terms of their available natural resources. They import virtually all, if not all, of their oil. They do not have the coal. They don't really have too many viable alternatives. I think that although France is in a somewhat different situation, they are confronted with, in some respects, a similar type situation. So that it isn't necessarily in all cases an all-or-nothing-at-all matter, but it is something where the nuclear option looms very, very large, is very, very important to their whole program of energy security.

Senator **Percy**. Finally, if you made a decision to not make a decision or you haven't made a decision yet in this area we have been discussing or proposed changes in the law or improvements in it, do you have any timetable or any idea you can give us as to when you may be able to focus on this? Or am I to just infer there are no real proposals, that concerning this law, imperfect as I am sure it is, we can't think of anything better to do than continue it? I had hoped there would be recommendations in the administration to change that law.

Mr. **Malone**. I think we still have this under active consideration. I think that we will be continuing to consider it intensively, and it is very possible that we will come up with recommendations in this connection. We have no specific timetable on it at the present time, Mr. Chairman. And I did want to make the point very clearly, that at this juncture we have certainly taken no decision in this regard.

Senator **Percy**. Senator Glenn, I did indicate we would be completed by 12:30. I would yield to you the balance of the time. Then I think in consideration for our guests that have been here better than 2½ hours, would you be able to confine it to 12:30?

Senator **Glenn**. I will try, but I have some things here I want to get into.

Senator **Percy**. I want to take this occasion to thank you very much indeed. I consider it an important dialog we have had today, and it is a matter we all share, the concerns, questions, the degree to which we share it and the priority we put on it. I hope we all agree it is a matter of very, very high priority. We have taken it on. It is not a part of our constitutional duty, but our conscience. Senator Glenn and virtually everyone in this room has participated and helped and is concerned and worried, and that is why they are here. I think you have given us assurances this morning that have helped me a great deal I know. I very much value your changing your schedule so you could be here.

Senator GLENN. Thank you, Mr. Chairman.

Before I get back into my previous line of questioning, just one thing I wanted to clear up, Dr. Gilbert. Did you say if we did everything that we talked about and suggested, including postponing the Clinch River breeder reactor and operating the fast flux test facility on a reduced duty cycle, that we could increase our plutonium stockpile to meet the latest version of the stockpile memorandum? Is that correct?

Mr. GILBERT. If the fuel grade plutonium from Richland were not available for the Department of Energy breeder program, that would cause a shortage of fuel for the Clinch River breeder reactor and the fast flux test facility.

Senator GLENN. But we are talking about cutting back the Clinch River breeder reactor?

Mr. GILBERT. We don't think we need cut back on Clinch River because we think there are other potential sources for the plutonium for the Clinch River breeder reactor that would not require that Richland plutonium. That was the thrust of my answer.

Senator GLENN. Back to my previous line of questioning on this report out of Inside Energy that will be coming out in the November 20 issue. It is a weekly report. I read the first part of that that indicated that the President has urged DOE to move toward transferring the uranium enrichment business to the private sector, et cetera, as I read before. It is part of a November 12 decision memorandum in which Reagan conditionally approve the transfer of classified centrifuge-enrichment technology to a consortium of Australian companies trying to start an enrichment business in their country. The directive stipulates the transfer is to be made by U.S. companies rather than DOE, the current owner of the technology.

The second paragraph I didn't read before:

> Reagan approved the technology transfer to the Australian consortium, after months of debate by the Carter and Reagan administrations, in hopes that the consortium will choose U.S. companies over their European and Japanese competitors as partners for the Australian enrichment venture, the officials said. A decision on the international collaboration is to be made by the consortium by early next year. Reagan's insistence on transfer of the technology by a U.S. company rather than by DOE is to give "high visibility" to the administration's intent to make uranium enrichment a private rather than a Government business, officials said. Those officials said the Office of Science aand Technology Policy was primarily responsible for the linking of the administration's desire for private enrichment to the technology transfer to Australia.

This was a November 12 decision memorandum. Are you aware of that memorandum, No. 1, Mr. Malone?

Mr. MALONE. Yes, I am aware of the memorandum, Senator Glenn.

Senator GLENN. Is this an accurate reflection of what it is?

Mr. MALONE. As I have indicated before, I would prefer not to comment in open session. It was classified.

Senator GLENN. Let me say this. Does it in fact——

Mr. MALONE. I would be happy to discuss it with you in a closed session, in executive session. But it was classified material, and it was something that was more in the ambit of DOE's responsibility. So I feel I might be treading on their responsibilities as well.

Senator GLENN. Well, I realize that the technology we are dealing with has classifications to it. But is it classified there has been a decision memorandum and there has been a decision yes or no on what I just read?

Mr. MALONE. I don't know that that is the case. The memorandum to which you referred is classified as far as I am aware.

Senator GLENN. Well, is it going to be the policy of our Government, as you understand it, to transfer this technology to a private basis as opposed to a government-to-government basis?

Mr. MALONE. I would defer to my DOE colleagues on that, if I may.

Senator GLENN. Well, what has been your recommendation? Have you recommended that? That can't be classified, that is your recommendation.

Mr. MALONE. Again, Senator, I think that that is a privileged matter within the executive branch. Again, I would be happy to discuss this with you in an executive session.

Senator GLENN. Let me take a little different tack. Has there been a decision such as this, to the best of your knowledge? That can't be classified.

Mr. MALONE. Well, the trade press and other press have certainly reported it.

Senator GLENN. Let me follow that up with a different question. Has there been consultation with the Congress on this ?

Mr. MALONE. I am unaware on that. As I say, this was within the area of responsibility of DOE, and their representatives are here.

Senator GLENN. Would DOE comment?

Mr. THOMAS. Senator Glenn, let me defer to my colleague for the moment, Mr. Bengelsdorf, who I think knows a good answer.

Senator GLENN. You are at the end of the table.

Mr. BENGELSDORF. There is nobody to the left of me, Senator. [Laughter.]

Senator GLENN. You just pointed to a wastebasket, which may be very appropriate.

Mr. BENGELSDORF. Senator, my hesitancy earlier was due to the fact that I just don't think I can validate a classified text. You were reading a text.

Senator GLENN. Could you take the negative. Can you tell me it is not true?

Mr. BENGELSDORF. The administration has made a decision——

Senator GLENN. Could you tell me this report is not true, then?

Mr. BENGELSDORF. Well, I am unable to say it is not true. The administration has taken a decision in principle to cooperate with Australia on enrichment. This is a decision whose execution will be contingent on a number of factors, including Australia's interest in cooperating with the United States in this area.

Senator GLENN. You are talking about the United States working with Australia. This says it is on a business-to-business arrangement.

Mr. Bengelsdorf. If I may pursue the matter a little further, Senator. In the event a program of cooperation in this area materialized, we undoubtedly would have to transmit "restricted data" to the Government of Australia. This, is turn, would mean that in accordance with section 144 of the Atomic Energy Act the transfer only could take place pursuant to either a new or amended agreement of a cooperation. No flow of restricted data to Australia could occur in the absence of satisfactory understandings, as the law requires, on terms for protection of the information, considerations of a nonproliferation character, et cetera. It is contemplated that to effectuate the proposed cooperation or enrichment, U.S. industry would be given a significant role in exploring with its counterparts in Australia the configuration of cooperative deal. But this would have to take place within a governmental framework or agreement that the President would have to approve and that would have to come before Congress for the requisite 60 days before it could be enacted. We have recently advised Australia, as have a number of other holders of enrichment technology, that we are prepared in principle to explore collaboration with them. But as I have stressed, this would have to be within the context of a framework that the President would have to approve and that the Congress would have full opportunity to review.

It is my understanding there were consultations with the leadership in conjunction with this decision.

Senator Glenn. In the Congress?

Mr. Bengelsdorf. Yes.

Senator Glenn. It certainly hasn't filtered down to my level, I know that.

It is my understanding that DOE has prepared an options paper in response to an OMB request regarding the enrichment program. Can you tell us whether this options paper considers this privitization matter?

Mr. Bengelsdorf. The proposition of going to private enrichment is not a new one, as you know, Senator. There are studies underway looking at the feasibility of moving in that direction. This is a very complicated issue. A range of options have been looked at, but no decision has been taken on which course of action would be the best one. This is a highly complicated issue, as you know, in terms of what mode one would talk about in going "private." Are you talking about new incremental capacity? Are you talking about existing capacity? What do you relate to?

Senator Glenn. With regard to Gas Centrifuge Enrichment Plant [GCEP], does this option paper contemplate replacing GCEP by advanced isotope separation?

Mr. Bengelsdorf. This is not within my purview, but it is my understanding we have in mind first completing GCEP and then following GCEP with the optimal technology they have in hand.

Senator Glenn. I realize the complexity and I also realize the sensitivity of this. I hope the administration is aware of the political squawk in the Nixon administration over privitization of enrichment in the mid-1970's. I hope you still have a record of that over there. Don't we?

Mr. Thomas. I don't know, Senator. but I will look.

Senator GLENN. At that time Congress was certainly unwilling to consider privitization of the enrichment industry for all the reasons I have mentioned in my opening statement today. I don't want to go through all that again. It just seems to me I find it difficult to believe we are down where we have these negotiations underway, where negotiations apparently, according to this report, the intent is to make uranium enrichment a private rather than a Government business, and that we haven't even heard of it up here yet. The committee hasn't anyway. It seems to me we are going to find this, as Chuck Percy said, going through the overhead, I am afraid. That is a very big surprise. This is a major decision. This is not a small item. This isn't one little MB-10 for spent fuel transfer. This is a major decision. If we are going business-to-business on the matter of enrichment of uranium, and I suppose reprocessing will follow shortly, if it isn't already included—maybe they missed that in this article—but if we are going that route and it is going to be private business to private business with some vague oversight of Government, that is a very major change of direction for this country, and I take that with the greatest of seriousness. I don't treat it lightly.

Will ACDA get in the act? Will they give their nonproliferation assessment on this if it is to go this route?

Mr. THOMAS. Senator, I simply can't answer the question.

Senator GLENN. I think it is over in the State Department, the ACDA role.

Mr. MALONE. I would assume, under NNPA, under the appropriate section, they probably would have to make a ruling over that. Although once giving opinions for that agency, I am no longer doing so, so I would not know.

Senator GLENN. Has ACDA been asked to look at this?

Mr. MALONE. Again, I am not aware of that. And, again, Senator, I certainly offer an executive session on this when we could have the appropriate people here, but I am very hesitant about discussing this further in open session.

Senator GLENN. Can DOE tell me, has ACDA been brought into this? That is not a secret certainly.

Mr. BENGELSDORF. It is not clear to me which aspect you are addressing, if it is the Australian issue.

Senator GLENN. Yes.

Mr. BENGELSDORF. The answer is categorically "Yes."

Senator GLENN. That they have been brought in?

Mr. BENGELSDORF. They have been part of the deliberative process.

Senator GLENN. We haven't heard anything about it from them either. I gather we are not going to get much farther.

Let me bring up a new item, one more I want to bring up.

We have a report that the Kuwait Oil Corp., which is owned entirely by the Government of Kuwait, through its merger with Santa Fe International will acquire control of the Santa Fe International subsidiary C. F. Braun. C. F. Braun is one of the premier architect-engineering firms in the United States and has designed and supervised the construction of a number of projects at U.S. nuclear weapons facilities, including the plutonium recovery facility at Rocky Flats, the refurbishment of the Purex reprocessing plant at Hanford, general work on the Hanford N reactor, and design and construction of a plutonium R. & D. facility at Lawrence Livermore Lab in California. The C. F. Braun skills in the design and construction of ammonia plants would give a substantial leg up in the development of heavy water manufacturing facilities. And there is a lot of detail I won't go into now because of time here.

But, as I understand it, the Federal Interagency Task Force on Foreign Investment, which is chaired by Treasury, is examining the merger. They can recommend to the President he exercise his emergency power to halt or delay the merger. Are you aware of this, and what are your concerns about it, and what are you doing about it, or are you concerned about it?

Mr. MALONE. We are aware of it, Senator, and I believe that Secretary Thomas can comment on that most effectively.

Mr. THOMAS. Mr. Chairman, the issue of the Kuwaiti buy into Sante Fe has been a matter of considerable interagency discussion. There is a high level group within the Government that has been considering this question, even before this latest element with respect to C. F. Braun made its appearance. There have been extensive articles in the press, including long ones in what Wall Street Journal about 1 month ago, about our concern about this particular acquisition. I can assure, Senator, that this matter is under full and intense consideration. This particular component of it, as you have just referred to, is indeed an ongoing, active study within the administration right now.

Senator GLENN. Is there authority in the administration, as you see it now, is there authority to stop a sale such as this if we wanted to or do you need additional legislation?

Mr. THOMAS. My understanding is that the U.S. laws are strict on the export or transfer of sensitive nuclear equipment, materials or technology, and will continue to be vigorously enforced. I can't comment at the moment as to whether additional legislation would be appropriate. Our view at the moment is the applicable law may well be adequate, assuming the matter comes to that.

Senator GLENN. With what you understand about it now, would the sale of the company to Kuwait include all technical information or would this just be a sole ownership, a stock ownership, and nothing beyond that?

Mr. THOMAS. I can only give you my personal understanding at this moment, and that is it is a stock ownership only and it would not necessarily include, for example, major components, changes within the corporate structure itself. And only one small element of Santa Fe and C. F. Braun is involved in the activities alluded to in the press. I can also say to you, based on my information, the press articles with regard to the activities of C. F. Braun are not altogether accurate.

Senator GLENN. Is there precedent for ownership of an American company but denial of access to information of what that company deals in?

Mr. THOMAS. I simply can't answer that question at this moment.

Senator GLENN. Do we have any other similar ownership in the nuclear field at all that you are aware of?

Mr. THOMAS. None that I am aware of, but that doesn't necessarily make it a complete, factual, all-encompassing statement.

Senator **Glenn**. What is the membership on this Interagency Task Force on Foreign Investment?

Mr. **Thomas**. I believe that all of the principal agencies are concerned. The White House has representation; Treasury chairs; the Department of Energy plays an active role; Department of State plays an active role; Department of Defense is likewise involved. There are several others on there, I believe, as well.

Senator **Glenn**. Is ACDA on it?

Mr. **Thomas**. I can't answer that question specifically. I don't know.

Senator **Glenn**. What would be the outcome of the interagency task force? Who do they report to, directly to the President or the Secretary of the Treasury?

Mr. **Thomas**. My understanding, Mr. Chairman, this question itself may well go to Cabinet Council from this particular task force. The next level might well be Cabinet Council, sir.

Senator **Glenn**. How has this been handled in other cases? Are you gentlemen aware how this has been handled in some other cases, such as Renault's, as they like to be called now, takeover of American Motors? Do they have access to all of that information that the company owns?

Mr. **Thomas**. I can't respond.

Senator **Glenn**. Does anyone know?

Mr. **Malone**. No, that is really not in my area at all.

Senator **Glenn**. I am trying to think of a precedent where there might be a similar situation, but we are into a different level of importance obviously.

Mr. **Malone**. I don't offhand think of such a case, and I think that probably Secretary Thomas has given you as much information as I have on this particular situation.

Senator **Glenn**. There will be some questions for the record on behalf of the other Senators that have not been here. We appreciate your sticking with us so long and sticking around through the voting procedure here.

[A letter dated February 22, 1982, from Secretary of Energy James B. Edwards to Senator Percy and responses of Messrs. Malone and Thomas to written questions submitted by Senators Percy and Glenn follow:]

The Secretary of Energy,
Washington, D.C., February 22, 1982.

Hon. Charles H. Percy,
Chairman, Subcommittee on Energy, Nuclear Proliferation and Government Processes, Committee on Governmental Affairs, U.S. Senate, Washington, D.C.

Dear Mr. Chairman: This is in response to your recent letter concerning the need to balance nonproliferation concerns with other important U.S. interests such as national security, domestic energy development and budget reductions. I fully agree with you that the U.S. Government must coordinate such key interests of this country and to the extent possible assure that all those interests are carefully considered, balanced and protected.

Positions on nonproliferation and related issues are fully coordinated within the Department of Energy through the offices of the Assistant Secretary for Nuclear Energy, International Affairs, Defense Programs and other offices as appropriate. Decisions on these matters are also carefully coordinated by the Executive Office of the President, in particular, the Office of Management and Budget and the National Security Council. I believe that these processes have been working well and have resulted in balanced policies which are supportive of our nonproliferation interests as well as our domestic energy and economic needs. In particular, the recent decisions of this Administration on the Clinch River Breeder Reactor and domestic reprocessing are fully consistent with U.S. nonproliferation policy.

You may be assured that we will continue to take nonproliferation concerns fully into account and to consult with the other interested agencies in reaching decisions which could have implications for our approaches against the spread of nuclear explosive devices.

Detailed answers to the questions you raised in your letter are enclosed. If I can be of any further assistance in this regard, please let me know.

Sincerely,

JAMES B. EDWARDS.

Enclosure as stated.

NONPROLIFERATION CONCERNS CONSIDERED IN THE FOLLOWING DECISIONS

1. Continued construction of Clinch River Breeder Reactor.
2. Removal of the ban on domestic reprocessing and the decision to encourage private participation in reprocessing.
3. Elimination of the United States Country Energy Assessment Program.
4. Acceleration of research into Plutonium Laser Isotope Separation.

The Department of Energy was extensively involved in the formulation of the President's nonproliferation message of July 16, 1981 and the domestic nuclear policy statement of October 8, 1981. Both the foreign and domestic nuclear policy messages were reviewed to assure that there was consistency in the two statements.

1. Nonproliferation considerations were taken into account in the decision to continue with the construction of the Clinch River Breeder Reactor. From an international standpoint, it was recognized that nations seriously interested in the breeder and reprocessing where there are no proliferation risks—such as our allies in Japan and Western Europe—were particularly concerned about the attitudes of the previous Administration. They viewed those attitudes as hostile to their energy needs and breeder programs.

This situation was proving to be counterproductive to U.S. international nuclear and nonproliferation policies. Overall, we concluded that breeder development is important to the energy programs of a few advanced nations with good nonproliferation credentials. Accordingly, President Reagan's statement of July 16, 1981, noted that this Administration would not seek to inhibit or set back reprocessing and breeder reactor development abroad in nations with advanced nuclear power programs where it does not constitute a proliferation risk. Thus moving ahead with the CRBR was viewed to be consistent with our nonproliferation objectives.

We also recognized that an active breeder research and development program would give the United States an opportunity to interact with foreign breeder programs and to influence them in ways supportive of our nonproliferation interests.

2. Similarly it was believed that lifting the ban on U.S. commercial reprocessing would be consistent with the attitude we have taken towards reprocessing in other advanced countries where there is no proliferation risk. In this connection, however, it should be stressed, as President Reagan stated, that the United States will continue to inhibit the transfer of sensitive material, equipment and technology particularly where there are dangers of proliferation.

3. The U.S. Country Energy Assessments Program with developing and industrializing countries originated in 1977 as one of several U.S. nonproliferation initiatives. It was managed by DOE under the policy guidance of the Department of State. The program objectives were subsequently broadened to emphasize reduction of dependence on imported oil and increased utilization of indigenous energy resources. Cooperative assessments have been conducted with Egypt, Peru, Portugal, Korea and Argentina. The decision to terminate this program at the end of fiscal year 1981 was based upon the judgment that other more cost-effective means could be found for achieving the overall objectives of the program, including, specifically, the nonproliferation objective.

4. Although the precise nonproliferation effects of the development of a laser isotope separation process are difficult to predict at this time, we do maintain strict controls on this technology and continue to monitor its development because of its sensitivity. Plutonium laser isotope separation technology would, of course, neither produce nor make accessible separated plutonium. Rather it would provide the capability to remove undesirable isotopes from existing plutonium and thus render that material more attractive for use in nuclear weapons. However, the use of plutonium laser isotope separation presumes that a country already possesses separated plutonium which is a weapon-usable material. Thus it would have no direct bearing on a country's basic capability to acquire plutonium for nuclear explosives. It is also a

technology that will not be readily available to most other countries for the foreseeable future.

Because of its potential application for weapons material production, we will maintain strict controls with respect to this process. Sensitive aspects of this technology are classified; for example, specifications of equipment and components (including lasers and laser technology) used in the design, construction, fabrication, or operation of such a process would be classified as Restricted Data. In addition, a validated license from the Department of Commerce is required for the export of any commodity and unclassified technical data related thereto where the exporter knows, or has reason to know, that the commodity or technical data will be used directly or indirectly in the separation of isotopes of source or special nuclear material, whether or not the commodity is specifically modified or designed for such activities. Such exports are also subject to the controls in Sec. 57.b.(2) of the Atomic Energy Act of 1954, as amended. Sec. 57.b.(2) is implemented through DOE's regulations 10 CFR Part 810 which regulates the unclassified activities of U.S. persons in foreign atomic energy programs. These activities may involve the transfer of technology, the export of commodities or the providing of technical assistance such as architect-engineering services. Activities subject to a Part 810 specific authorization must be approved by the Secretary of Energy after a determination that the proposed activity will not be inimical to the interest of the United States.

RESPONSES OF MR. MALONE TO WRITTEN QUESTIONS SUBMITTED BY SENATOR PERCY

Question 1. The New York Times printed a story on November 16, 1981, based on the report of a former IAEA inspector that charges safeguards are "incapable of detecting the diversion of a significant quantity" of nuclear fuel "in any state with a moderate to large nuclear establishment." This is a very serious charge. Do you agree with this inspector's analysis of IAEA safeguards?

Answer. The most likely large-scale system is one consisting of light water reactors and spent fuel storage facilities. These are also the easiest systems to safeguard. The probability is very high that no matter how large such a national system would become, the diversion of a significant quantity of nuclear material would be detected easily.

We all recognize that the IAEA faces significant challenges in safeguarding certain types of facilities; in particular, reprocessing and enrichment plants. Major efforts are underway to meet these challenges.

The IAEA safeguards system is by no means perfect. The former Director General, Sigvard Eklund, stated in September that the Agency could no longer give assurance of non-diversion at certain on-load refueled reactors. We are also aware of the concerns felt by some with respect to large research reactors. In both cases the IAEA has recognized its strengths and weaknesses and has taken positive steps towards the resolution of the problems that have been identified. This speaks well for the Agency and the safeguards system.

Question 2. A key part of President Reagan's statement on non-proliferation policy in July was a commitment to strongly support the IAEA. What is the administration doing to strengthen the IAEA? Will adequate financial support be provided in this age of budget cuts?

Answer. Despite cutbacks in many other programs, we are maintaining, even slightly increasing, our financial support for the IAEA in both its safeguards area and in overall budget. Through the U.S. Support Program of Technical Assistance to IAEA Safeguards, which the administration strongly supports, the United States helps meet the critical needs of the Agency for instrument and systems development, training and other safeguards support that are not available through normal IAEA channels. We have had significant success encouraging other IAEA member States to follow our lead.

The administration makes major efforts to ensure that the IAEA recruits the best qualified personnel available for its secretariat. This is true in all areas, including safeguards and technical cooperation.

The administration strongly supports, both privately and through the Board of Governors, the IAEA Secretariat's efforts to improve safeguards. Such efforts have become increasingly important in view of the IAEA statement that it is having difficulties with adequately safeguarding one type of facility in at least one instance.

RESPONSE OF MR. THOMAS TO A WRITTEN QUESTION SUBMITTED BY SENATOR PERCY

Question. The bill I have proposed, S. 1812, prohibits the use of commercial nuclear fuel for weapons without a waiver from Congress. Some legislators in both the House and Senate feel we should not even provide a waiver because even keeping the option open would severely harm our non-proliferation policy. Which of these two approaches do you prefer—a waiver or an absolute prohibition? Do you think leaving the option open would harm our efforts to stem the spread of nuclear weapons?

Answer. The Department of Energy does not believe enactment of either of the legislative alternatives is required.

In taking this position we should like to underscore the following considerations.

First, DOE, like other interested Federal agencies, believes that it is vital for the health of our nation that nuclear energy be employed in the most effective manner for peaceful purposes as well as in support of the common defense. As one of its major objectives DOE attempts to conduct its operations to give substantial weight to both of these goals. We also believe it is vital to perform our functions so that they are fully supportive to U.S. foreign policy, including non-proliferation, objectives.

With these considerations in mind, it is our policy to meet the military requirements that are placed on DOE through the use of dedicated facilities within our production complex—recognizing the important responsibilities that are placed on the United States as a military leader in the Western Alliance.

DOE has no plans to employ material generated in the civil nuclear sector in the U.S. military program. Neither are proposals to take such a step under active consideration. On the contrary, given the importance of maintaining a clear distinction between the peaceful and the military uses of nuclear energy as well as the serious domestic and non-proliferation implications of such a step, we would consider such an action only if absolutely essential for U.S. national security.

Moreover, such an action would have to be approved at the highest levels of Government, and the views of Congress would be sought and carefully weighed in the decision making process.

Accordingly, given the purely hypothetical aspect of this issue, we believe it is unnecessary to enact any legislation at this time or to make the judgments implied through passage of either of the legislative options that you have described.

RESPONSE OF MR. THOMAS TO A WRITTEN QUESTION SUBMITTED BY SENATOR GLENN

Question. Please state whether, prior to the President's decision to share enrichment technology with Australia, the United States attempted to persuade other potential enrichment technology supplier nations to enter into a joint understanding under which none of them would supply Australia with this technology, thereby avoiding commercial competition in this sensitive area. If such attempts were made, please provide details, including the dates of the relevant U.S. initiative, the country supplier country involved, and that nation's response. Please also supply copies of all relevant cables.

Answer. It has been the policy of the Executive Branch to encourage restraint in the export of sensitive technologies, such as enrichment, particularly to sensitive or unstable regions or to countries that do not possess credible non-proliferation credentials. Consultations to this end have been held from time to time with other suppliers in the context of the London Suppliers Group and more recently, bilateral. We also believe that the availability of enrichment services from existing suppliers through the 1990's makes it unlikely that many new nations will seek to enter the field as suppliers of enrichment services.

In the special case of Australia, however, the U.S. has not judged it to be desirable to encourage the other suppliers of enrichment technology to embargo enrichment cooperation with that country. Moreover, as has been reported to the Congress, we ourselves have expressed our willingness to share our classified enrichment technology with that nation, subject to negotiation, Presidential approval, as well as review by the Congress of the requisite new or amended Agreement for Cooperation. Briefly put, our reasons for adopting this position have been as follows:

First, we believe Australia has a reasonable interest in studying the acquisition of an enrichment plant. If an additional foreign enrichment plant is constructed we believe Australia would be as stable and safe location as any for such a facility. In particular, Australia possesses one of the largest reserves of natural uranium in the world and for some time various parties in the Commonwealth have expressed an interest in seeing Australia enter the field of enrichment so that Australia might derive a greater value, more jobs and revenues from the use of its natural uranium. It appears that the nuclear market might be able to sustain a modest commercial Australian enrichment plant later in this century although the detailed economic and commercial feasibility of the concept is expected to be the subject of on-going evaluations over the next two years.

Second, Australia obviously is a stable nation that possesses outstanding non-proliferation credentials. Australia is a party to the Non-Proliferation Treaty, is a strong supporter of IAEA safeguards and adheres to strict nuclear export policies. For example, the Government of Australia has gone beyond the scope of the London Supplier Guidelines by requiring that exports of Australian natural uranium be made only to cooperating nations that are parties to the NPT. Furthermore, Australia has also indicated that it would propose to configure any enrichment plant that it might acquire so as to be consistent with non-proliferation objectives. It appears prepared, for example, to design the plant so as to facilitate the application of international safeguards and to permit multinational participation in the enrichment facilities has potentially important non-proliferation benefits. The Australian case could provide an important opportunity to further the multinational approach.

Third, for some time the other principal Free World countries possessing enrichment technology have expressed a willingness to assist Australia by sharing their technologies. The U.S. is a relative late comer to the scene. The URENCO Tripartite Centrifuge Group (comprised of the UK, the FRG and the Netherlands) has, for some time, expressed a willingness to cooperate with Australia. Under these circumstances, it appears quite possible that an Australian project may well proceed with or without U.S. involvement. If the U.S. sought to obstruct the project by encouraging other suppliers not to cooperate this could prove harmful to U.S.-Australian relations and in our view would prove to be unsuccessful and counter-productive.

Fourth, if an Australian project does, in fact, proceed, we believe U.S. foreign policy, non-proliferation, and economic interests would best be served if we—rather than another country—were selected to be Australia's principal technological partner. If the U.S. were constructively involved with the Australians in assuring that it fosters non-proliferation interests. Also, active U.S. association could result in significant economic returns to the United States.

Senator GLENN. The committee will stand in recess subject to the call of the Chair.

[Whereupon, at 12:45 p.m., the subcommittee recessed, to reconvene subject to call of the Chair.]

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

97th CONGRESS
1st Session

S. 1812

To ensure congressional approval for the use of commercial irradiated fuel and to support the Non-Proliferation Treaty.

IN THE SENATE OF THE UNITED STATES

NOVEMBER 4 (legislative day, NOVEMBER 2), 1981

Mr. PERCY (for himself and Mr. HART) introduced the following bill; which was read twice and referred to the Committee on Foreign Relations

---

A BILL

To ensure congressional approval for the use of commercial irradiated fuel and to support the Non-Proliferation Treaty.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Nuclear Non-Proliferation Act of 1981".

FINDINGS

SEC. 2. The Congress finds that—

(1) the Treaty on the Non-Proliferation of Nuclear Weapons is an international agreement vital to the

maintenance of world peace and the national security of the United States;

(2) the principal purpose of the Treaty on the Non-Proliferation of Nuclear Weapons is to prevent the misuse of peaceful nuclear technology for military explosives;

(3) the development of advanced isotope separation technologies makes additional efforts necessary to assure that these technologies are used within the framework of the Treaty on the Non-Proliferation of Nuclear Weapons; and

(4) the United States, to the greatest extent consistent with the national defense and security, should abide by the same obligations as nonnuclear weapons States with respect to the use of nuclear power technology.

SEC. 3. Section 57 of the Atomic Energy Act of 1954 is amended by adding at the end thereof the following new subsection:

"e.(1) The Nuclear Regulatory Commission shall issue no license for, or allow under any current license, the transfer of irradiated fuel produced in any nuclear power reactor licensed by the Nuclear Regulatory Commission, or any special nuclear material originally contained in such fuel, for use in a nuclear explosive device unless—

"(A) the President determines that use of such irradiated fuel or special nuclear material produced from such fuel is vital to the national defense and security; and

"(B) the Congress by joint resolution approves the issue of such license, or transfer under a current license, by the Nuclear Regulatory Commission.

"(2) For the purposes of this subsection, the term 'irradiated fuel' means nuclear fuel that has been used in a nuclear power reactor.".

THE NUCLEAR CLUB INC.

1742 N Street, N.W. Washington, D.C. 20036 (202) 822-8444

STATEMENT
PAUL LEVENTHAL, PRESIDENT
THE NUCLEAR CLUB INC.
SUBCOMMITTEE ON ENERGY, NUCLEAR PROLIFERATION AND GOVERNMENT PROCESSES
COMMITTEE ON GOVERNMENTAL AFFAIRS
UNITED STATES SENATE
THURSDAY, NOVEMBER 19, 1981

Mr. Chairman, I appreciate your invitation to present a statement this morning on behalf of The Nuclear Club Inc. regarding the Administration's consideraton of a plan to utilize plutonium from the spent fuel of nuclear utilities for the manufacture of nuclear weapons.

The Nuclear Club Inc. is a new, non-profit educational organization whose membership is a diverse group of citizens opposed to the further spread of nuclear weapons. We organized in June of this year and have a few hundred charter members. We are the only educational group whose work is devoted exclusively to "horizontal proliferation"---that is, to the spread of nuclear weapons through commercial, or so-called "peaceful", nuclear power and research programs.

Materials further describing The Nuclear Club Inc. and the nuclear proliferation problem are appended to my statement for inclusion in the hearing record.

The Administration's new reprocessing policy as described earlier this year in the Department of Energy's testimony before the House Armed Services Committee and in recent press reports, is of grave concern to The Nuclear Club Inc. Any move by the federal government to use commercial nuclear-power spent fuel for making nuclear weapons would break down the final barrier between atoms for peace and atoms for war. It would set a dangerous example for other nations to follow. It would render meaningless efforts by the United States to dissuade foreign governments from using their commercial nuclear facilities to provide a weapons option. Ultimately, it would lead to a world awash in plutonium and bedeviled by nuclear violence.

For this reason, Mr. Chairman, The Nuclear Club Inc. and 11 other non-profit organizations have joined in a letter on behalf of our many thousands of members and supporters. The letter urges you to modify S. 181[illegible], The Nuclear Non-Proliferation Act of 1981, so that it provides a flat prohibition barring the United States government or any recipient of American civilian nuclear materials from using these materials to produce nuclear weapons.

The text and signers of the letter are as follows:

November 10, 1981

The Honorable Charles Percy
United States Senate
Washington, D.C.

Dear Senator Percy:

We are writing you on behalf of our organizations with an urgent request regarding your bill, S. 1812, the Nuclear Non-Proliferation Act of 1981.

This bill, as presently drafted, would establish a procedure for permitting the United States government to take possession of commercial nuclear spent fuel and utilize the plutonium contained therein for producing nuclear weapons.

We understand, and are sympathetic with, the intent of your bill: to bar weapons applications of peaceful nuclear materials unless the President finds such application "is vital to the national defense and security" and the Congress, by joint resolution, approves such a drastic course.

However, we are deeply concerned that establishing such a procedure in law now will serve to facilitate, rather than inhibit, the exercising of this option in the not-far-distant future. Furthermore, and of equal concern, is the dangerous signal that enactment of such a procedure would send to other nations and the likely destabilizing effect this would have on the already shaky international non-proliferation regime.

We believe that both of these defects in your bill can be remedied by taking the following approach: instead of enacting a procedure now to facilitate the option of converting civilian nuclear materials to military purposes, enact instead a flat prohibition, but make clear in the legislative history that a future President and Congress always can repeal this prohibition, simply by enacting a new law, in the event of a national security emergency.

The beneficial effect of this alternative legislative approach is as follows:

(1) the United States will go unambiguously on record as stating in law that its policy bars the use of commercial nuclear materials for nuclear weapons---thus preserving the vital barrier between atoms for peace and atoms for war, and

(2) the United States will retain the option to reverse this policy in the face of a major emergency, but would require enactment of new legislation to proceed with such a drastic course.

This approach, we believe, would serve to reassure our nuclear trading partners and other nuclear suppliers that the United States government remains steadfast in the most basic of non-proliferation objectives: barring the misuse of civilian nuclear materials for nuclear weapons.

We urge, therefore, that you modify S. 1812 to contain only the prohibitive language already approved at the subcommittee level in the House committee on Interior and Insular Affairs and the Senate Committee on Environment and Public Works, in connection with pending nuclear waste policy legislation. This language is as follows:

> "Add new Subsection 57 (e) to the Atomic Energy Act of 1954, as amended, as follows:
>
> "Special nuclear material, as defined in Section 11, produced in facilities licensed under Section 103 or 104 may not be transferred, reprocessed, used or otherwise made available by any instrumentality of the United States or any other person for nuclear explosive purposes."

We believe this language is essential to prevent dangerous ambiguities from entering the most basic premise of U.S. non-proliferation policy. We urge you to avoid pursuing a "Percy Option" for converting peaceful atoms to weapons use at a time when neither the Department of Energy nor the White House is seeking such an option. Substituting a flat prohibition for the procedure contained in your bill would serve to prevent this from occurring.

We appreciate your consideration of our proposal, and we would appreciate the opportunity to meet with you personally to discuss this urgent matter.

Sincerely,

Paul Leventhal
The Nuclear Club Inc.

William Adler
Americans for Democratic Action

Michael Faden
Union of Concerned Scientists

Renee Parsons
Friends of the Earth

Robert Alvarez
Environmental Policy Center

D. Barton Doyle
Ripon Society

Thomas B. Cochran
National Resources Defense Council

Gary Itzkowitz
Nuclear Information and Research Services

Ruth Nieland, FSTA
NETWORK-Catholic Social Justice Lobby

John Isaacs
Council for a Livable World

Christopher N. Palmer
National Audubon Society

(Original letter signed)

The Subcommittee is receiving testimony today from the Department of Energy on the technical aspects of the program.

I would like to direct our statement to the policy implications of the proposed program, particularly its impact on the political direction of the nation's nuclear program and its impact on the global nuclear non-proliferation regime. By way of background, let me state briefly that in my former staff capacity in the Senate, I was responsible for investigations and hearings and for drafting legislation leading to abolishment of the Atomic Energy Commission in 1974 and to enactment of the Nuclear Non-Proliferation Act of 1978. I also was Co-Director of the Senate Special Investigation of the Three Mile Island Nuclear Accident.

We have three basic concerns about the proposed reprocessing program:

First, by utilizing commercial plutonium for nuclear weapons, this program would destroy the most basic principle of Atoms for Peace and invite other nations to do the same. This basic principle---that civilian nuclear materials and facilties never be used for military purposes---applies equally to nuclear weapons states and non-nuclear weapon states and is the very foundation of the Nuclear Non-Proliferation Treaty and the safeguards system of the International Atomic Energy Agency. If the world's leading nuclear technology nation, the United States, abandons this principle, the entire international non-proliferation structure is vulnerable to collapse like a house of cards.

Second, assuming use of the new laser technology will result in the government returning reactor-grade plutonium to utilities for recycling as fuel, the commercial sector will rapidly acquire tons of nuclear explosive material. This lower-grade plutonium is not ideal for weapons, but it still only takes 10 to 20 pounds of it to make a Nagasaki-scale atomic bomb.

The safeguards needed to protect this vast quantity of nuclear explosives from diversion or theft simply do not exist. And most experts now agree that there are technological and political limits to safeguards that always will prevent effective protection of separated plutonium---especially tons of it---in the commercial sector. It is by no means an overstatement to conclude that implementation of the proposed program will lead sooner or later---probably sooner---to losses of plutonium with devastating consequences: regional nuclear wars that can escalate to global conflagration, or nuclear terrorism directed at major cities in the industrialized world---or both.

Third, this program, if it is permitted to go forward, is likely to embroil the already beleagured nuclear industry in a new wave of controversy. The siting of new nuclear power plants, in addition to being opposed on safety grounds, will be opposed as atom-bomb factories as well. If the nuclear industry ultimately supports the government's plan, it may be driving the final nail into its own coffin.

Mr. Chairman, the question of how much plutonium is enough for our nation's nuclear weapons program is a complex issue. It bears upon far-reaching assessments of our national security needs and of our ability to utilize and upgrade available plutonium production and recycling facilities in the weapons program. But there is also a simple issue with far-reaching implications. And it is this: no matter how much plutonium is needed for our military program, it must not be drawn from the civilian sector. Furthermore, laser technology used for enrichment and refinement of weapons plutonium should not be made available to the civilian sector, and especially not be exported to other nations.

If our weapons designers give in to the temptation to draw on the 70 metric tons of plutonium still "locked" in the spent fuel of our utilities, they will be opening a pandora's box with long-term consequences that will outweigh any immediate national-security benefits. We must see clearly, while there is still time to act, that pursuit of this policy will lead to a plutonium epidemic worldwide. Such an epidemic, given the mounting danger of terrorism, could bleed western industrial civilization one city at a time.

Mr. Chairman, I commend you for holding these oversight hearings and would like to close by suggesting certain legislative remedies in addition to the one already described in the letter from 12 organizations to you.

First, the Atomic Energy Act should be amended to ban the use or the export of laser enrichment technology for plutonium derived from commercial spent fuel. This is a sensitive weapons technology that should be strictly classified. It goes beyond what is needed to prepare plutonium for commercial use in the unlikely event it ever becomes necessary to reprocess spent fuel to meet commercial nuclear power needs.

Second, the Atomic Energy Act should be amended to bar any reprocessing of commercial spent fuel prior to a determination by the Nuclear Regulatory Commission, concurred in by both Houses of Congress, that safeguards are effective and sufficient to permit widespread use of separated plutonium as a fuel. In the absence of such a finding of safeguards effectiveness, commercial reprocessing must not go forward; plutonium must not be used as a fuel; the breeder rector must not be developed.

Third, the Nuclear Non-Proliferation Act should be amended to place all nuclear export and re-export activities under the jurisdiction of the independent Nuclear Regulatory Commission. This would permit the NRC to act as originally intended by Congress---as a true check on the proliferation tendencies of the Executive Branch. In particular, the NRC should be responsible for deciding on licenses for export of sensitive components and technology, now done by the Departments of Energy and Commerce, and for decision-making on permits (so-called MB-10s) regarding transfer of U.S.-source nuclear materials for reprocessing abroad, now done by the Department of Energy.

Four, enact S.1488, a bill introduced by Senator Hart to provide nations an energy credit in the form of low-enriched uranium, not usable in weapons, in return for their agreement to give up access to plutonium contained in U.S.-source spent fuel.

These action's, Mr. Chairman, would help to assure that the federal government and the nuclear industry do not pursue technological paths that will inject tons of plutonium into the commercial sector domestically and worldwide.

The Nuclear Club Inc. continues to believe that proliferation of nuclear weapons is *not* inevitable unless decision-makers in government and industry assume that it *is*. There *is still time to act*. The first item on the Congressional agenda should be to shore up the already shaky barrier that separates peaceful and military applications of atomic energy. Bar the use of commercial plutonium in nuclear weapons; bar the use of plutonium as a commercial fuel in the absence of effective safeguards.

If the Regan Administration really believes that separation of atoms for war from atoms for peace is "more psychological than real," as suggested recently by Bernard Rusche, Special Assistant to Energy Secretary Edwards, then the reality of widespread nuclear violence may soon be upon us, ushering in a nuclear Dark Age.

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